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Clarendon









4/20/11  
Cleveland Hospital  
Council

# **Introduction**

## **General Environment**

### **Sanitation**

#### **PART ONE**

Cleveland Hospital and  
Health Survey



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**Introduction**  
**General Environment**  
**Sanitation**

**PART ONE**

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**Cleveland Hospital and**  
**Health Survey**

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by

THE CLEVELAND HOSPITAL<sup>RY</sup> COUNCIL  
Cleveland, Ohio

Published by

The Cleveland Hospital Council  
308 Ansfield Bldg.  
Cleveland - Ohio

The Hospital and Health Survey of Cleveland was made at the request of the Cleveland Hospital Council.

The Survey Committee appointed to be directly responsible for the work and through whose hands this report has been received for publication consisted of the following:

MALCOLM L. McBRIDE, Chairman  
MRS. ALFRED A. BREWSTER  
THOMAS COUHLIN  
RICHARD F. GRANT  
SAMUEL H. HALLE  
OTTO MILLER  
DR. H. L. ROCKWOOD  
HOWELL WRIGHT, Secretary

The staff responsible for the work were:

Director—HAVEN EMERSON, M. D.

Assistant-Director—GERTRUDE E. STURGES, M. D.

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Consultant in Orthopedics—ROBERT B. OSGOOD, M. D.

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*Mental Hygiene in Cleveland—*

Study in charge of THOMAS W. SALMON, M. D.

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*Pharmacy in Cleveland—*

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Bibliography of Surveys prepared by MISS JULIA T. EMERSON.

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In charge of CARLTON MATSON

Assisted by MISS GEORGIA BOWEN

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National Committee for the Prevention of Blindness.

MRS. WINIFRED HATHAWAY, Executive Secretary.

American Society for the Control of Cancer.

F. J. OSBORNE, Executive Secretary.

Association for the Prevention and Relief of Heart Disease.

MISS M. E. WOUGHTER, Executive Secretary.

The expenses of the Survey and of the publication of the report have been met by appropriations received from the Community Chest through the Welfare Federation, of which the Hospital Council is a member.

The report as a whole or by sections can be obtained from the Cleveland Hospital Council. A list of the parts will be found in the back of this volume, together with prices.

**Letters  
of  
Transmittal**



## Letters of Transmittal

### TO THE CLEVELAND HOSPITAL COUNCIL:

There is presented herewith the report of the Committee on the Hospital and Health Survey of Cleveland, appointed on October 1, 1919, as recorded in the minutes of the Cleveland Hospital Council:

"Moved by Mr. Anisfield:

"That the action of the President of the Cleveland Hospital Council in appointing a committee consisting of the following persons: Malcolm L. McBride, Chairman; Otto Miller, Richard Grant, Dr. H. L. Rockwood, Thomas L. Coughlin, Samuel H. Halle and Mrs. A. A. Brewster, to conduct a health survey of the City of Cleveland, be ratified and endorsed, and that the general outline of the Hospital and Health Survey as prepared by Mr. Wright and attached hereto be used as a guide by the committee in conduction of the Survey, which outline shall be subject to modification as may be needed.

"The Committee will have full power in the premises to engage personnel and proceed with the Survey. It is emphasized that there should be specific and definite recommendations regarding the building programs and the character of the future work of the existing hospitals, such recommendations to be made at as early a date as possible.

"Throughout the whole investigation the committee is asked to be as specific as possible in its recommendations.

"Seconded by Mr. Hildreth and carried unanimously."

### GENERAL OUTLINE

#### FOR HOSPITAL AND HEALTH SURVEY

Hospital and health activities have a common purpose.

It is better public health and fewer preventable deaths. There are four fundamental contributing factors to the efficient work of all hospital and health organizations working to this end.

These are:

Development of medical education, both post graduate and under graduate.

Development of nursing education, both general and special.

Advancement of public health and preventive medicine.

Care of the individual sick.

Due consideration must be given to each of these four factors in considering the work of any individual hospital or health organization or group of such organizations or community hospital or health needs.

The work of this committee may be divided into two parts:

I. A survey and study of the existing hospital and health activities—public or private—of Cleveland. It should determine the contribution which is now being made to the common end by the different institutions individually and collectively, discover ways in which these institutions may be made to contribute more by reasonable changes either

in the division of labor with other institutions, the volume of work done or contemplated, or in the way of doing work. This involves a survey and study of:

1. Medical education in Cleveland as at present conducted.
  - (a) Use of clinical material and facilities in Cleveland by the Medical School for under-graduate instruction, for post-graduate instruction of young medical men, for instruction and development of the medical profession in general.
2. A study of nursing education as conducted at present in Cleveland.
  - (a) Training Schools giving general nursing education.
  - (b) Facilities for providing nurses with special education and training.
3. The Division of Health of the City of Cleveland and its relation to the hospitals, dispensaries and other medical institutions and the profession in general. Its activities in the care of contagious diseases and in preventive medicine.
4. A study of the existing hospitals and their plans for extension to determine:
  - (a) The available and contemplated facilities for—
    - Pay or private room patients,
    - Part-pay and ward patients,
    - Free patients.
  - (b) The probable normal needs of the community for each of these classes of accommodations.
5. A study to determine the present and contemplated facilities as well as the probable normal needs of the city for the care of certain classes of sick:
  - Contagious, including venereal diseases,
  - Acute surgical,
  - Acute medical,
  - Chronic surgical and orthopedic,
  - Chronic medical,
  - Convalescent,
  - The immediate development of facilities for chronic and convalescent patients as a means of saving hospital space.
  - Insane and mental diseases,
  - Aged and infirm,
  - Maternity,
  - Babies and children,
  - Accident and emergency.
6. Dispensaries. A study of their location as to their availability to all Cleveland citizens in need; the type of cases receiving treatment therein; the facilities of the various dispensaries to do properly the work undertaken.

II. The second part is a more extended study of the community to determine the ideal number, grouping, location, character and functions of the hospital, medical and health institutions which can best serve Cleveland at present and during the reasonable future development of the city. This entails the following:

1. Morbidity, accident and mortality rates for the city, as a whole, and by districts, based on city statistics, questionnaires to doctors, hospital and dispensary records, Industrial Commission reports, U. S. Census figures on occupations, races and ages and morbidity census in other cities, perhaps house-to-house canvass of selected districts to learn amount of sickness, total and classified.
2. Care secured by the sick, economic ability to secure care. Home conditions affecting care. Knowledge or ignorance of existing facilities. Efforts of agencies to reach those needing their care. Constituencies of various hospitals or attraction of hospitals for various groups. Survey of adequacy of home care in typical neighborhoods.
3. Capacities and facilities of existing agencies for giving the amount of remedial care shown to be needed by studies of the amount and present care of all sickness, accidents, and by prospective increase of population.
4. The estimated reduction in sickness from extension of preventive medicine and health insurance, based on European experiences.
5. The Medical School's relation to present and future hospitals, dispensaries, sickness prevention and the health department.
6. The relation of nursing training schools to present and future hospitals, dispensaries, sickness prevention and the health department.

On October 3, 1919, arrangements were made to undertake the study as proposed in the communication appointing this committee.

The Survey staff was organized and began its work in Cleveland on November 9, 1919. The field studies, the public meetings and the conferences with representatives of the organizations and agencies, both public and private, concerned with the various aspects of the field of inquiry were completed early in July, 1920.

The accompanying text, now printed and available for distribution, has been passed upon and approved by the committee.

The subjects treated of include those specified at the time the committee was appointed and several others which it seemed desirable to add during the progress of the studies.

It is recommended that the Cleveland Hospital Council use its influence in support of the proposals and conclusions of the report.

Your committee requests its discharge with the completion of the services expected of it.

(Signed) MALCOLM L. McBRIDE, *Chairman*,  
MRS. ALFRED A. BREWSTER,  
THOMAS COUGHLIN,  
RICHARD F. GRANT,  
SAMUEL H. HALLE,  
OTTO MILLER,  
DR. H. L. ROCKWOOD,  
HOWELL WRIGHT, *Secretary*.

Cleveland, Ohio, September, 1920.

TO THE HOSPITAL AND HEALTH SURVEY COMMITTEE  
OF THE CLEVELAND HOSPITAL COUNCIL:

SIRS:

There is herewith presented to you in its completed form and prepared for publication the report of the several members of the Survey staff who have, under my direction, and with your approval, studied the Hospital Service, Education in the Medical and Allied Professions, and the Facilities for Health Protection in Cleveland.

At the risk of criticism for failure to seize the opportunities presented to obtain and report all possible facts bearing upon the care of the sick and the protection or development of health, only such material has been collected and only such portions of the collected data have been prepared for publication as appeared to contribute substantial force to the discussion of the problems and to the recommendations arrived at.

Wherever information reliable in source and for all practical purposes comparable to what would be found in Cleveland was known of, it was accepted and used without attempt at duplication or repetition.

From the beginning of our studies all of the investigators and consultants engaged in the work have acted upon the assumption that personal discussion, argument, demonstration and persuasion upon the spot with those directly concerned with administration or service in the health or hospital field, was sure to contribute more to change in method or improvement in results than could be expected from the reading of the printed page at a later date.

There have been no pains spared to insure a broad and intimate contact with all groups of citizens concerned in any way in the multitude of services comprised in the hospital and health problem.

Recognizing that Cleveland has been a generous contributor to each of the national movements now engaged in attacking the causes of ill health and in spreading knowledge of self-protection against disease and disability, it seemed reasonable to expect in return collaboration by these same national groups in Cleveland's effort at self-analysis and a share in the responsibility and privilege for providing a plan and program for so typical and aggressive an American municipality. Either through direct assumption of the entire cost of services obtained, or by sharing the cost of officers temporarily assigned to the Cleveland Survey, or through the generous gift of time and attention at no expense to the Survey, we have been so fortunate as to obtain for incorporation into our report the studies and conclusions of representatives of:

The National Tuberculosis Association,  
The American Social Hygiene Association,  
The National Committee for Mental Hygiene,  
The National Committee for the Control of Cancer,  
The Society for the Prevention and Relief of Heart Disease,  
The National Committee for the Prevention of Blindness,  
The National Committee for Study of Public Health Nursing  
Education.

The American College of Surgeons.

Our investigators have been drawn also from the  
Harvard School of Industrial Hygiene,  
Boston Dispensary,  
New York City Department of Health,  
American Red Cross,  
American Child Hygiene Association.

From Cleveland itself we have obtained continuous, helpful and devoted service, not only from those whose occupations, professional and lay, placed them in a position to assist or contribute to the volume and success of our study, but from that great group of well informed men and women who are ready to devote their time and capacities to any undertaking which offers assurance of improvement in the conditions of life of their fellow citizens. Among the most important sources of assistance have been the officers of the Division of Health, the Board of Education, the Welfare Federation, the Academy of Medicine, Western Reserve University, the Central Nursing Committee, the Visiting Nurse Association, the Associated Charities, the Consumers' League, Y. W. C. A., the Junior League and the Women's City Club.

During the course of the Survey there was opportunity to supplement and cooperate with:

- (a) A special committee on Social Hygiene whose work was drawing to a close about the time this Survey was begun.
- (b) The Welfare Federation, which undertook a study of the social, educational and recreational functions of the institutions for children, while the Survey analyzed the sanitary, medical and health services provided.
- (c) The Consumers' League in its study of the use of milk in Cleveland and in its recently inaugurated study of the employment of children.

In submitting this report it is a pleasure to pay tribute to the breadth of vision and the public spirit shown in the objectives which the Cleveland Hospital Council set before you, its committee, for accomplishment. It seems reasonable to expect that such benefits as may accrue to Cleveland from the study of the local situation are not to be confined to this city alone, but will stimulate similar studies elsewhere and will prove of practical value to that large group of executives, trustees and their financial supporters throughout the country, who are carrying the responsibility for health development and its protection, for disease prevention and its treatment, for education in the field of medical services.

For the support, encouragement and critical judgment of the committee I wish to express the gratitude of those engaged upon the Survey. There have been offered to us full freedom of opportunity and a spirit of cooperation and helpfulness without which our friendly contact with the institutions, agencies and branches of the civil government would have been difficult to obtain.

It must be apparent that in no single subject of our report has the field of study been exhausted. Our conclusions may well be modified in the future by what we trust will be undertaken in the way of further self-analysis



and research in the methods and results of medical social service which nowadays fills so important and costly a function in the structure of community life, safety and progress.

The cost of the Survey has come within the amount originally set aside for this purpose: namely, \$53,000, of which \$3,000 had been spent on a study and report of social conditions which contribute to venereal disease incidence before the general plan of the hospital and health study was completed. The total cost of the Survey, estimated at the time of going to press, including publicity service and publication of the report, has been \$52,668.98, under the following functional headings:

Direction and Administration.....	\$24,902.38
Tuberculosis.....	938.63
Hospital and Dispensary.....	5,117.54
Child Hygiene.....	1,026.27
Statistical.....	562.00
Venereal Disease.....	3,586.04
Nursing.....	3,829.85
Mental Disease and Mental Deficiency.....	385.00
Industrial Hygiene.....	4,429.68
Children's Institutions.....	891.59
Publication.....	7,000.00
<b>Total.....</b>	<b>\$52,668.98</b>

In addition to the services paid for under the above headings there have been contributed, as indicated previously, the services of the representatives of a number of the national and local organizations interested in some aspect of health protection. It would have been impracticable to engage and pay for those directing and participating in these contributed services, but the following statement gives a very conservative estimate of the financial burden which has been borne by these organizations in the interest of the Survey of Cleveland:

National Committee on Mental Hygiene.....	\$3,813.52
Committee for Study of Public Health Nursing Education.....	2,210.00
American Social Hygiene Association.....	1,500.00
The Welfare Federation, Cleveland.....	1,400.00
The Consumers' League of Ohio.....	800.00
American Red Cross Bureau of Public Health Nursing.....	250.00
American Society for Control of Cancer.....	100.00
National Society for the Prevention of Blindness.....	100.00
Association for Prevention and Relief of Heart Disease.....	100.00
	<b>\$10,273.52</b>

Owing to the fact that the work of the Survey has extended over a considerable period of time, and since continuous progress in the development of services for the sick and facilities for disease prevention has occurred in Cleveland during the period of our study, it will be found that the present

report, consisting as it does of contributions made by investigators at different periods of time between November, 1919, and July, 1920, does not in all respects describe the conditions as they are on the date of publication. Furthermore, it will be a matter of satisfaction to you, as well as a matter of interest to the reader, to know that many of the recommendations which are proposed in the various chapters of our report have already been adopted.

It has been a privilege to be associated with the investigators who have shared the work and to have played the part of coordinator in the undertaking.

Respectfully submitted by

HAVEN EMERSON, M. D., *Director.*

Cleveland, Ohio,  
Hospital and Health Survey,  
September 22, 1920.



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# Hospital and Health Survey of Cleveland, Ohio

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A Report Presented to the Committee on Survey of the Cleveland  
Hospital Council

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# Introduction

By HAVEN EMERSON, M. D.

"A few great points steadily reappear, alike in the poverty of the obscurest farm and in the miscellany of metropolitan life. \* \* \* \* . These few are alone to be regarded: the escape from all false ties; courage to be what we are; and love of what is simple and beautiful; independence, and cheerful relations, these are the essentials—these and the wish to serve—to add somewhat to the well-being of men."

THE habit of mind or of work which prevails in the United States is rather to move from the practical to the theoretical than in the reverse order. As is natural in a young nation free from the established procedures and precedents of government and personal conduct which dominate the life of older countries, we see a need, we move to meet it, we presently suspect our method or results might be improved, we collect records, study, evolve a theory and perhaps then begin to apply the principles evolved to new undertakings in the same direction. We have not evolved a theory and principles of health development, of health protection, of disease prevention, of death postponement. It has been one of the illuminating educational features of our contact with the keenly analytical, the intellectually honest minds of our French colleagues during the war that we have met a system of education and practice which begins with theory and principle, and gradually through individual and ultimately through government action arrives at application of theory to practical needs.

This report is a contribution to the study of current facts, accomplishments, undertakings in the field of medico-social service. Theory is not within the plan of this presentation, but it is hoped that by the study of facts, by the application of recommendations, theory may be tested and the philosophy of social organization for the attainment of health and its maintenance may be advanced.

Those of us who have shared in this study are perforce enthusiasts, if you will, fanatics, crusaders in what we believe is to prove the greatest contribution of this generation to the success of a representative and democratic social order: namely, civil and social organization for health. Neither forms of government nor systems of society will long endure unless the health, mental and physical, of the people is accepted as a matter of official and individual concern, in importance second only to the administration of justice, provision of education, liberty of speech and of religious observance.

This is not the place to press the argument. Personal experience and government documents in abundance provide the data from which students will decide the amount and distribution of wastage from sickness and premature death. No expression, in terms of money equivalent of human labor, of this burden upon life, this deficit in happiness, adequately represents the true total, but even to the so-called practical man, that much abused man-in-the-street who is supposed to be merely a mechanical adding machine without sympathies, emotions or imagination, the figures are impressive.

Expressed for the population of Cleveland and its suburbs, roughly a

population of 1,000,000 within Cuyahoga County in 1920, and using the death and sick rates experience of 70 per cent of the total population of continental United States in 1916, and the sickness census in various cities, such as Pittsburgh, Boston and Rochester in recent years as applicable to the experience in Cleveland in 1920, we must picture about two per cent of all the people all the time too sick to work or be up and about, from causes of which one-half are certainly preventable.

In 1919 the cost of illness and death from communicable diseases alone in Cleveland, based on the very conservative estimates of value of life and cost of sickness, burial, etc., used in a study in Illinois\* must have been not less than \$25,000,000. To this must be added, among other items, the cost of death and disease due to preventable but non-communicable forms of disease and the cost of \$200 a year for each insane person and \$160 a year for each feeble-minded person cared for in institutions.

Further, we must recognize that not less than 35 per cent, and in some places as much as 75 per cent, of dependency seeking relief from public or private sources, is due to sickness. To say that dependency is in large measure due to sickness is merely the corollary of the statement that the average of independence is everywhere lowered by sickness, and upon independence our whole social, family and labor structure is based.

Three services we shall always need if we intend to provide the best that science affords to heal the sick and to guard the well against disease. Each service although indispensable by and for itself is, however, necessarily dependent upon the other two for its complete usefulness and application, and no one can be omitted without sacrifice of much of the value of the others.

Diagnosis and Treatment of the sick comes first to mind as it was first to be provided, but first by a narrow margin of time before the Teaching of Medicine. These two led by many ages the third, the Prevention of Disease.

We have won our way from an attitude of passive submission or acceptance of disease and disability as inflictions of fate, of some evil genius, or by the gods or our own Divinity, through the self-respecting and upright position of self-defense against disease, using the weapons of science, until we are now moving aggressively forward attacking disease and determined to overcome it by all the resources of society as well as of science, by instilling into people the hope, the promise, the certainty of health, as well as by assembling, coordinating, directing with our knowledge of preventive medicine and organized government a continuous warfare upon all the physical, biological, economic and spiritual handicaps against which man and child cannot successfully make progress alone.

First, and first by a long interval among the weapons of attack, comes education, not alone the training of the intelligence, the distribution of facts, but the development of the feelings, the emotions, the instinctive reactions which guide us chiefly in the emergencies and great decisions of life. The channels of this education are not alone the schools and colleges but the individual field workers, the physicians, the nurses, the public health officers, the social workers, the school teachers who make contact with the homes. Health, its attainment, its defense, its prolongation, cannot be taught all

\*Hemenway, *American Journal of Public Health* Vol. 10, Number 2, February, 1920.

the time to all the people, and to but few and for but short periods, through the public press or the distribution of so-called "literature" and propaganda by pictures, posters, etc.

Rarely there comes the great teacher, one who compels attention by his knowledge or his art, a Franklin, a Pasteur, an Osler, but, in the main, health teaching, except to the few training for certain professions, will be given effectively only to those who are for one reason or another teachable. Children are teachable because youth is acquisitive and interested in itself and all that concerns its body and its playmates. Mothers are teachable for the sake of their babies. Perhaps one may include both parents sometimes in this class, while their children are still dependent. The sick and suffering are generally teachable from self-interest, from hope, from humility. In the presence of epidemic disease of the kinds such as influenza and infantile paralysis, against which we have no reliable measures of defense, everyone can be taught the elements of personal hygiene and good health habits because of the fear of death.

The first three groups include all the community at some periods of their lives and we owe them guarantee that the physicians, nurses, teachers and others whom they are beholden to at these periods for care and instruction, themselves know what must be taught and furthermore practise what they preach.

In this guarantee we fail at present. What can be done to protect those who are uninstructed must be done *for* people rather than *by* them, and here we come upon the functions of the public and private agencies for disease prevention. In this field we are emerging from the era when the health officer was a lawyer, a policeman, a scavenger, a mere clerk, to the conception of the health officer as a leader in social organization, a student of disease as it occurs in groups, an administrator of services which make life more secure and happier in every household, in reality the family physician of the community, its trusted advisor and protector.

For those whom our education and our devices for prevention have been of no avail, the sick and injured of medical practice, the wastage resulting from our ineffectiveness in protection, we provide the physician, the visiting nurse, the dispensary, the hospital, the convalescent care. That there should be so much more needed to pay the cost of repair work than is thought sufficient to spend for prevention is a commentary upon our intelligence, a sharp reminder of our wastefulness, of our undeveloped business acumen.

In the chapters which follow there will be given a description of the services provided in Cleveland for the prevention of disease and for the care of the sick, including description of the facilities for training those who contribute to this care. Where there are defects they will be pointed out, with, where possible, specific recommendations for their remedy. So a diagnosis and treatment for the city will be developed in a way similar to the method used in the physician's office or hospital.

We were invited to Cleveland to learn and to state the facts and if more emphasis appears to be put upon shortcomings than upon excellencies it is not because the latter were not observed and admired, but that extensive



comment upon the bright eyes and rosy cheeks of the patient seems malapropos when there is a dressing to do for a broken arm.

For convenience in distribution of the report to students and workers in the various special fields of hospital and health work the text is divided into eleven parts.

Under General Environment and Sanitation, Part I, will be found description of those elementary factors upon which are based an estimate of the standards of living attained by a community. The reader will wish to know the area and population, something of the geology and the nationalities, and what the history of growth predicts for future needs. As life and the success or failure we make of it is largely a matter of our ability to adapt ourselves to natural and artificial variations in environment, we are interested in Nature's allotment of weather to this man-picked site for a great human aggregation. What man does to his fellow-men is certain to be more of a menace than what the elements dispense, and his home, where his children are reared, where he and his wife and the little ones spend the major part of their time, is found here as it is elsewhere in our cities commonly far below the limit either of our means or of our knowledge or of our legal requirements for healthy living.

The blessing of pure water is within his reach, and in the main there is good provision for disposal of his wastes, for man, like bacteria, cannot live long in the midst of his own offal and dirt.

With his air the Clevelander is not so fastidious and, although it is supposed to be the only remaining necessity of life still free for the humblest citizen, yet we find a filthiness of air which robs the child of its breath, the sun of its strength, the sky of its precious color, and simply because of habit and unneighborliness, the habit of ignoring coal smoke as a public nuisance and indifference to the inconvenience caused to the other fellow by your own belching chimney.

In Part II. we deal with the dual machinery of public and private organization for health protection. After outlining the basis in law and in local government administration for the powers and services of various departments which contribute to health in Cleveland, the Division of Health and its bureaus are described and analyzed. The parsimony of public appropriating bodies in matters of insurance against disease and death through investment in the services of doctors and nurses is in striking contrast with the liberal use of tax money to protect property against violence and fire. There are defects in personnel, organization and inadequacy of resources, but that there is a record of important and encouraging accomplishment cannot be doubted.

Without a service for public education for legitimate civic advertising of needs and opportunities in health protection any health service is sadly crippled. This is the case in Cleveland.

Official protection of industrial workers against health hazards is needed and would be welcomed, but it is not offered in the present health service.

The children of the parochial schools, the children of pre-school age, the expectant mother, all lack the life saving service which is offered at public expense in some other cities.

As the family physician of the city the Commissioner of Health should be provided with physicians to maintain supervision over the health of those children whose lives are spent in the unnatural environment of institutions. This he cannot do at present.

Among the existing bureaus there is none needing such a radical overhauling as the Bureau of Vital Statistics. An adequate record of human liabilities and assets is indispensable to intelligent public health work. A conception is presented of the possibilities, the necessities, the advantages of a true demographic office and reports for the city, a model for a municipality, an example which if followed would elevate the city, the state and the nation in the estimation of thoughtful people here and abroad.

One of the archaisms of our civil government is disclosed in the persistence of the coroner's system. Until Cleveland follows the example of Boston and New York in establishing this function under non-political, competent pathologists there will be inefficiency, graft and the cloaking of crime under the forms and appearance of law.

Everywhere we find private energy and sympathy organized to supplement public service. This is particularly the case in preventive and relief work for the sick. The crippled, the blind, the lame in heart and mind always will be sought out and assisted to such happiness and occupation as they can attain. Sooner or later the wish to prevent rises into effective effort and real health protection develops. There are in Cleveland as elsewhere special agencies for the care of the many handicapped, and the special merit of Cleveland is in the successful coordination of support and direction of many of these medical and social services maintained by private resources. These are described in some detail in the chapter on Private Health Services and the total of undertakings is certainly impressive, in spite of the gaps, which it is hoped will soon be filled.

Although the subject matter of Part III. deals with many important functions and accomplishments of the Division of Health, and as well includes description and discussion of auxiliary private agencies, the leading role of the child's health as the objective of the great majority of private and public health services made it seem wise to set apart this program in its entirety from the general field covered in Part II. Probably in no subject of public health work will the results of a logical and thorough integration of the public and private agencies bring such economies in cost and personnel and such large returns. A good beginning has been made in prenatal care of expectant mothers; a start upon service for the children between two and six years, the pre-school child, is assured; important improvements in public protection of the child in industry are under way. In the public schools, and more particularly in the parochial schools, there is need of thorough medical examination and home follow-up by nurses.

Except for the defects of development, nutrition and exposures to infection which result from the child's handicaps of home environment, the most serious defect in the provision made by the public for children during the years of compulsory school attendance is the quality of air permitted in the school rooms. In the majority of school rooms and in all those in the newer school buildings the systems of so-called mechanical ventilation are in control of the child's vitality. Laws, more in the interest of building contrac-

tors and engineers than of children's health, impose a plan of so-called ventilation which is really a kind of slow strangulation process. The open window has been shut by law. Children's health requires open window ventilation all the year round. The laws must be changed and school management be so arranged that the air in class rooms may be freely flowing, cool and fresh, with as nearly as practicable the relative humidity of outdoor air.

Tuberculosis in Cleveland, which is dealt with in Part IV., is, first of all, a study of incidence and distribution, necessarily incomplete because of the inadequacy of the records of population, deaths and sickness, but sufficient to show the unfinished work, the need of renewed attack and the ways which have proved helpful elsewhere. In this subject, as in the following one of Venereal Diseases, we are face to face with a problem of social contacts. No mere medical knowledge, no public or private health organizations alone will accomplish the reduction or control of the spread of tuberculosis. As man's own habits, his customs, his environment artificially created, are the multitudinous contributory factors both to infection and to active expression of the disease, so it must be through a spread of knowledge, through intelligent, clean living, through the abatement of injustices which tax the nourishment, the rest, the peace of mind of those of modest means that we must look for diminution of tuberculosis, as well as through the greater skill of physicians in the early detection and in the arrest of active tuberculous disease.

While tuberculosis remains the cause of something over 12 per cent of all deaths and responsible for the most costly of all sicknesses, and while we do not know the fact of sickness before death in at least 30 per cent of all persons dying of tuberculosis, there needs no elaborate exposition of our social and official shortcomings. The report upon the exact conditions in Cleveland will certainly lead to a stronger determination and a more generous support for medical and social agencies engaged on this problem.

The so-called American Plan for the control of venereal disease is used in Part V. to measure Cleveland's accomplishment. From being a subject of technical discussion among specialists at medical society meetings the problem of control of syphilis and gonorrhea has aroused open discussion on the floor of Congress, has enlisted the joint action of three of the most powerful departments of the Federal Government, is accorded earnest consideration and intelligent discussion in state legislatures and has been raised from shame and silence into the range of decent educational publicity.

It is not for physicians, nurses, hospital superintendents and health officers that this subject is here dealt with. The origins of syphilis and gonorrhea are so intricately beset with social factors that although the scientific facts of etiology and diagnosis, the course of the diseases and their treatment have given the courage of knowledge in our campaigns, still by education in character, self-restraint, control of the brute in us by our better natures and by sparing our children the unfavorable contributory factors in employment, conduct, recreation and opportunity which have generally prevailed until now, we can do as much through social organization as through health services. As the text of the chapters will show there is ample opportunity for advance along lines to suit the inclinations of the lay worker, as well as the practitioner or student in laboratory research.

Part VI. gives a picture which will develop humility in thinking people. With our vaunted humanity and practical efficiency we prove ourselves inhuman in our collection and treatment of the most pitiful of human wreckage and inefficient in our indifference to the debt of feeble-mindedness and insanity we are permitting to be piled up for the next generation, by failure to provide for segregation and institutional care for the thousands now at large in the homes of the city.

No more scathing comment upon civil administration could be made than the description of the kind of care provided for the mentally afflicted at City Hospital. Could this have occurred if there had been an active, alert, interested group of physicians and others organized to help the problems of mental hygiene, the interests of the mentally lame, the opportunities for prevention and education in Cleveland? Probably not, and certainly one of the results of the present brilliant statement of the situation should be the establishment of a local mental hygiene committee affiliated with the national body of this name.

Part VII., the volume on the Medical Services in Industry, Women and Industry, and Children and Industry, represents the first effort in this country or, so far as we are aware, elsewhere, to see the broad landscape of this new professional country. Where are the workers? How distributed in large and small plants? What the quantity and quality of the professional care provided for them? What is to be expected from reasonable care of the workers in terms of production and of producers? Such are questions that await answers. To quote from the first chapter of the report, "Cleveland is an industrial community; the greatest common interest of her people is her industries, and those of her people who labor therein are the life of the city. The future of Cleveland depends upon the well-being and the happiness of her industrial workers and to secure and safeguard their health is the vital task of industrial medical service."

Such services are understood by the few leaders and the methods and results are matters of record for those who wish to learn. The city awaits and needs the advantages of these services, the results of which can be guaranteed.

That there should be more than twenty-two thousand women occupied in industry may seem a small quota to take from the home makers of a city of 800,000 people, but as a unit exposed to varied and serious risks, as a great army of possible or prospective or present mothers, the interest of the state in their safety and continued health is large. That there are special physical disabilities acquired by women in apparently safe and reasonable work is well known. That fatigue plays a more serious part in the damage to women's health than is generally found among men, or at least expresses itself in a variety of troublesome nervous affections, is seen in some industries. That women should be excluded from night work is perhaps too obvious to argue. Now with the facts before us, it is safe to say that with the increasing power of women in organization and self-determination it will not be long before remedies are found for the worst evils. The women of Ohio certainly need the rights of suffrage.

How loosely we count our treasures, how careless we are of the strength of our men and women in the making, is told in the story of children in in-

dustry. Not a lurid tale of child slavery but an inventory of the pros and cons of this undesirable element in national wealth. The strengthening of laws will accomplish something, their better enforcement still more, but the final answer to the question of children in industry will be given only when parents see that in education and vocational training there is a greater return in maturity than the early earnings of children can provide.

In Parts VIII. and IX. the profession of medicine and its associates, in service to the sick are dealt with, the training provided for them and the relations of their licensed practitioners to preventive and curative medicine. This involves a consideration of the University which mothers them all, her limitations, and wherein her children suffer from lack of educational pabulum. Much is asked of the University in the way of new undertakings in the educational field, all depending on the sinews of war—the state of the University treasury. Much is expected, however, by the injection of a more active leadership and initiative among trustees and teachers. The governing and teaching bodies need a generous dose of democracy and a sense of personal responsibility for a closer touch with the needs of the community. The visions of a great installation will all in time come true, but even without fine structures, conditions can be provided which will attract and hold that quality of brains upon which alone great schools are built.

In the practice of medicine certain characteristics are apparent which pertain more to the era of small town existence than to the service of physicians in a modern metropolis. Lack of use and consideration for the specialties in medicine and surgery are striking to those familiar with practice farther east in the United States, and in European cities. Entertainment as well as cause for serious action will be found in the study of those harpies who fatten on the credulity and ignorance of our foreign tongue immigrants, the irresponsible and illegal practitioner, the advertising quacks.

Dentistry and Pharmacy each present professional problems of importance which cannot be ignored without loss of some measure of help to the public in the care of the sick. Their contributions to preventive medicine also are considerable and increasing in value.

So extensive has the field of nursing become, so dependent are we in all directions of medical and public health practice upon this army of the trained sisterhood, that a study of their profession by a rarely well equipped group of their own graduates and leaders is particularly appropriate and most fortunate for this Survey. Nothing comparable to this has been done for the nursing profession before, and although studies of national extent are under way, Cleveland will now be in a particularly favorable condition to make good its present lead in strategic features of nursing education and practice, while waiting for the report of the National Committee from which we borrowed the director and several of the workers for our own study.

Nurses training in the past and often still presenting a rather sorry picture of mingled exploitation of willing labor and amateurish teaching, is worthily described. Practical means are proposed to meet the obligations of hospitals to both patients and nurse pupils.

Public Health Nursing includes thorough discussion of the services rendered in the many public and private organizations engaged in educational and bedside work through field nurses.

Private nursing, too, though not a matter of chief importance from the point of view of the Survey has had an illuminating brief study put upon it.

It was in the minds of the Trustees of the Cleveland Hospital Council that the conception of this Survey originated, and it was their declaration that the hospital is really a public service institution, responsible alike for prevention and for care of disease, that became the keynote of our program. Since prevention is the spirit of modern medicine the machinery for its accomplishment has had precedence in the order of chapters over the description of those services which have always been primarily devoted to cure, relief or postponement of death amongst the seriously ill.

In Part X. will be found not only a recital of the physical and professional resources of the community in the shape of hospitals, dispensaries and their accessory services beyond their walls, but the spirit, the philosophy, the ideals which imbue the present-day executives of these centers of skill, tenderness and teaching. From cellar to garret the investigators have searched for the good and the poor in hospital management. From the admitting desk, or rather from the doorstep, of the hospital where the disappointed applicant is declined admission, to the report of complete convalescence by the patient at the dispensary or to the social service worker weeks and months later, the path of the patient has been followed and the quality of attention accorded him has been scrutinized.

While estimates of the hospital needs of a community will vary with the education of people in the possibilities and advantages of hospital care for their own particular variety or for all varieties of ills, there is yet a basis of experience, a pragmatic test of adequacy to be offered. By this test Cleveland's shortage of beds is manifest. The remedy is, in the first place, adequate buildings and personnel and disinterested administration of its great City Hospital, now a travesty upon hospital service.

Private endowments and initiative will, as far as one can see into the future, always be required and generously supplied to meet the call for hospital beds, and as soon as the present apparent extravagance in cost of construction subsides there will certainly be undertaken great new hospital buildings and expansions of the present admirable ones, all justly held in affectionate regard by a grateful public. The shortage of dispensary service in Cleveland, as compared with service in other leading cities, constitutes another limitation of medical care for a considerable proportion of the population and for the facilities for consultation and diagnosis available to the medical profession.

If one need beyond that of more beds for acute general hospital patients is to be mentioned, it must be the lack of convalescent facilities. This is a typical shortcoming of American cities the meeting of which will go far to abate many of the present troubles of hospital administrators and the professional staffs, and at the same time complete the now unfinished work so well begun in the hospitals themselves.

There is no part of the present report which is so certain to appeal to a broad public as this section on Hospitals and Dispensaries. The public that is served, the public that contributes for the support of hospitals, the responsible trustees and their representatives, the hospital superintendents, the professions (medical, nursing, dental, pharmacy) in the field of education and service, the health officers and the private health agencies, all have an interest in the results of this study and the recommendations presented.

Although individual reports to the trustees of the several hospitals have already been presented to them, the general hospital situation as described will add to the understanding of each in the solution of their separate and particular problems.

What follows is for the convenience of students of sociology, a sketch of methods used, a list of analyses of kindred subjects made by other surveyors, and the inevitable index of subjects to save the reader's time.

Part XI. contains what may be likened to the description of technic in a physician's approach to his patient, the items to be included in his history and physical examination, etc. Although lists of publications dealing with surveys have been issued by libraries it has seemed wise to include here such as have been found useful to our present purpose or have in one way or another been levied upon for information or comparison.

## Summary of Recommendations

Cleveland Hospital Council specifically requested that detailed and definite recommendations for action be prepared by those responsible for the Survey. In the course of the following chapters the discovery of the need for each difficulty or inadequacy as was found practicable. At the end of each chapter there has been placed a summary of recommendations, by subject. The full extent of the program which is conceived and planned is such that such a program of medical and social endeavor has upon the government and upon organized private effort can best be seen by a study of the various recommendations in certain main groups. Another feature presented in the text shows that they fall logically under definite headings.

The first group deals with laws, both state and local (that is, as passed by the state legislature and affecting Cleveland, either directly or through provisions, and ordinances enacted by the legislative body of the city (City Council). The variety of changes thought desirable to suggest is such that it is believed nothing short of an organized effort in the interest of a supplementary program of social legislation will suffice to obtain compliance by the state and local law makers. It is, therefore, recommended

that the Welfare Federation request the volunteer services of a committee of representatives and public officers of the State Legislature and the City Council to consider and act upon the recommendations of the Survey dealing with amendments or additions to the laws.

A study of the recommendations under the various chapters shows suggestions are made which affect the State Child Labor Law, the School Code and the local city ordinance dealing with street trades, in the interest of the health of children; the Civil Code and Medical Practice dealing with irresponsible and unlicensed medical and dental practice; the annual registry of dentists, the licensing of dental hygienists, the licensing of attendants and of various state statutes dealing with the sale of drugs, nowhere than in drug stores and the privilege of purchasing tax-free by retail druggists; the Injunction and Abatement Law, the laws dealing with prostitutes in the interest of control of venereal diseases; the laws dealing with the diagnosis and treatment of mentally defective persons who come in contact with the courts and the laws dealing with the licensing and regulation of hotels, both of which affect in some measure the social program of venereal disease control; a law providing for supervision and licensing of hospitals under the State Department of Health; the modification of the city charter to permit of the appointment of a Board of Trustees to be responsible for the administration of the City Hospital; the enactment of a Sanitary Code for the city of Cleveland.

The second and very extensive group of recommendations deals with the improvement of conduct of existing departments of state and city government and with additional activities which it is thought suitable or necessary for the city to undertake. Many of the recommendations presented have been discussed in detail with the administrative officers, particularly of the city



government, and in some instances with those of state departments within whose power it is to modify procedure or activities to meet the suggestions made. Many of the recommendations cannot, however, be carried out without generous increase of appropriations and some must wait for authority from elected executive officers by whom the administrators are appointed and from whom they have received their authority.

It may be said in general that there is ample authority but insufficient appropriation and personnel to carry out the wishes which the voters and legislators evidently had in mind in framing the laws. The recommendations, as they affect the state government, propose an adequate inspection service to protect the licensed practitioners of the various medical and associated professions; adequate inspection service for the institutions of the state hospitals, institutions for children and others; adequate inspection service to protect women and children in industry and to enforce the child labor law; and the transfer of the responsibility for supervision of food handlers in restaurants from the Department of the State Fire Marshal to the State Department of Health.

General recommendations dealing with the city government include approval of the activities of the City Plan Commission; the investigation of sewage collection, treatment and disposal; investigation of the methods of collection and disposal of rubbish and garbage; a suggestion that the sum of \$1,000,000 be provided annually for the next fifteen years for sewer construction. The departments of the city government which the recommendations particularly affect are the Department of Public Welfare, the Board of Education, the Department of Public Service and the Department of Public Safety, under all of which departments there are activities which deal more or less intimately with some or all phases of health protection and care of the sick. It is believed that the most effective way of obtaining improvements of service or extensions of service as suggested in the recommendations bearing upon the departments of city government will be by organizing a Public Health Association in the city of Cleveland, as proposed in the Introductory Chapter of Part II., and it is particularly suggested that one of the most important activities of such an association would be to maintain friendly and cooperative contact with the officers of the city government so that they may feel the support of the citizens, may get the benefit of critical comment upon their activities and will be stimulated to their very best effort by the knowledge that their activities are being analyzed and tested by high standards. By those means of education properly included in the terms propaganda and publicity such an association would materially aid the officers of public departments to obtain adequate funds from the appropriating body, the Board of Control, needed to carry on the activities recommended and desired by the tax-payers. The extent and detail of the recommendations are too great to lend themselves to any summary in this place and the reader is referred to the summaries of recommendations, especially at the ends of chapters dealing with public health services, child welfare, venereal diseases, tuberculosis and mental hygiene.

The third group of recommendations deals with the private agencies. In almost all instances the recommendations as printed in the report have

been discussed with the officers or governing bodies of the private agencies which contribute to health protection and the care of the sick. In the case of all the hospitals, in addition to the recommendations here included, a special report, with detailed treatment of all the aspects of hospital work, has been prepared and submitted to the trustees of each of the hospitals in conference and by written statement. In the same way those matters bearing upon educational policies and practices in the various professional schools for medicine and the associated professions in Western Reserve University have been presented by word of mouth and in written report to the University authorities.

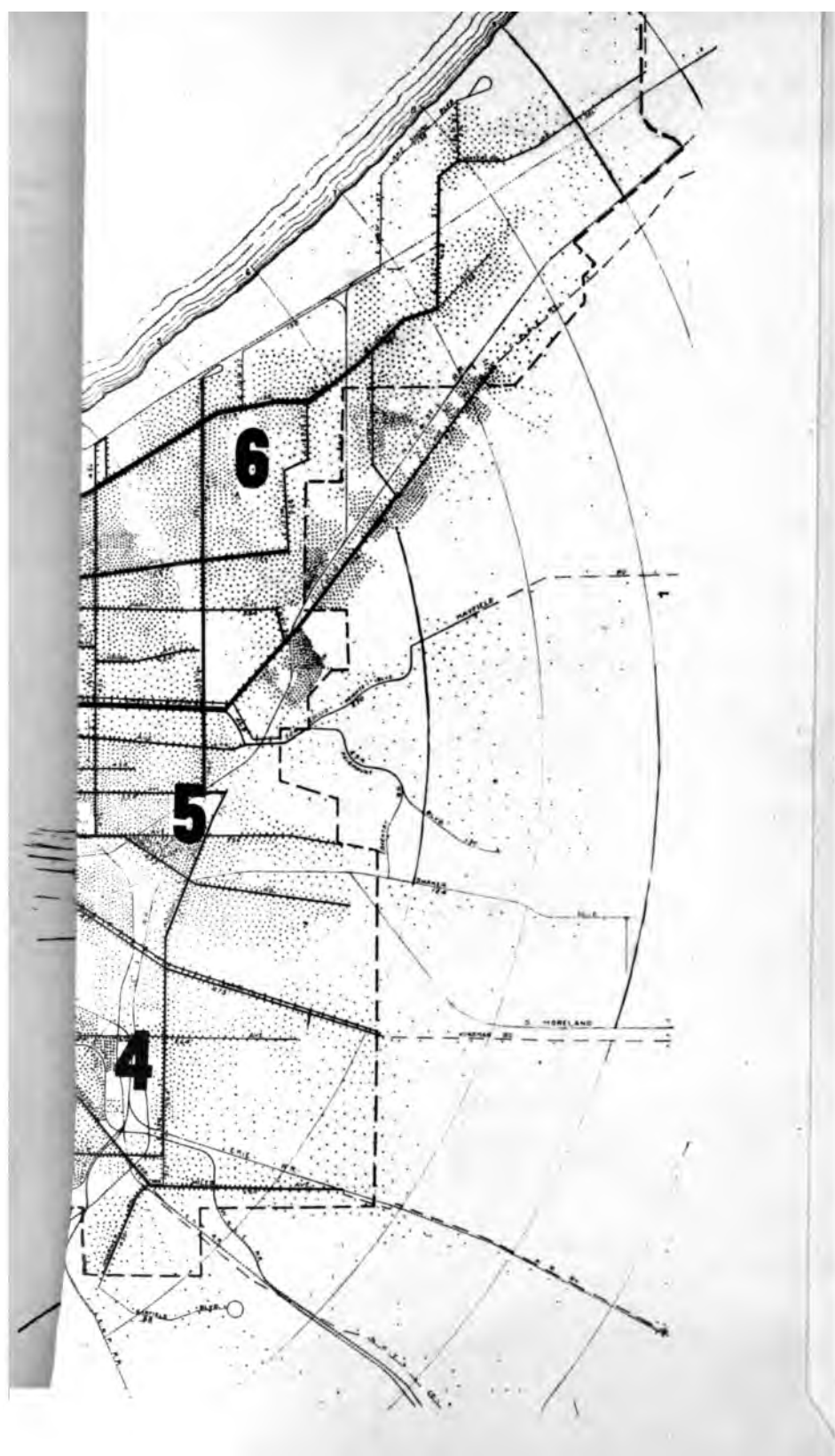
The several coordinating agencies, such as the Welfare Federation, the Cleveland Hospital Council, the Academy of Medicine, the Association for the Crippled and Disabled, the Central Nursing Committee, the Kindergarten and Day Nursery Association, have special responsibilities in furthering the recommendations which deal with their component organizations or personnel. Similarly, the Chamber of Commerce, the Rotary Club and the Cleveland Advertising Club have very broad duties in support of all the movements which contribute to the well-being of the public. To these coordinating agencies, both those dealing with professional fields and those of a general business nature, are assigned certain obligations in the recommendations as presented.

Upon industry a considerable burden is placed in suggestions that it meet the modern conception of responsibility to the employes by organizing for their protection against industrial hazards, and for their medical care, the professional and community resources which are mentioned in considerable detail in the section on industry in Cleveland. In addition to certain recommendations which deal with the activities of the Anti-Tuberculosis League the recommendation is made that a number of new and coordinated public health agencies, based on private initiative and support, should be established.

Under the fourth heading would fall naturally the recommendations for new activities. Among these the most important is the Cleveland Public Health Association above referred to, planned as a parent and centralizing force in all private health activities for the city, with section activities to deal with child welfare and its subdivisions—prenatal, pre-school, school child and child labor features—venereal diseases, tuberculosis, cripples, obstetrical care, and so forth. Two of the fields of preventive medicine are not as yet occupied by any private effort in Cleveland; the first, the field of prevention and relief of heart disease, and the second the prevention and cure of cancer. Both the education and the technical professional sides of these two problems need the same kind of organized support that has been provided to develop public services in the fields of tuberculosis, venereal disease and child hygiene.

Two new institutional activities for which the sick of Cleveland are now really suffering are: a well organized central dispensary and provision for convalescent care outside of the general hospitals and under suitable conditions of space and occupation.

In offering such a series of comprehensive suggestions it is recognized that no community however willing, however wealthy, however well educated in its social responsibilities could put into effect all the proposals, without a sacrifice of much that is good in the existing agencies and institutions, which must be used to build upon, and not be destroyed in the process of reconstruction. That all the recommendations can be made, even at the very considerable expense which this will involve, is the confident belief of the staff of the Survey, based upon its contact and experience with the citizens of Cleveland in all walks of life who have been a continuous source of encouragement and inspiration to the investigators throughout the past year. When the program here presented has been carried out it will be found that, in terms of human lives and happiness, Cleveland has greatly increased vital assets although its financial liabilities may be found to have been increased beyond the point to which communities are now accustomed to spend the money of either the tax-payer or the private contributor.





# General Environment and Sanitation

## Population and Area

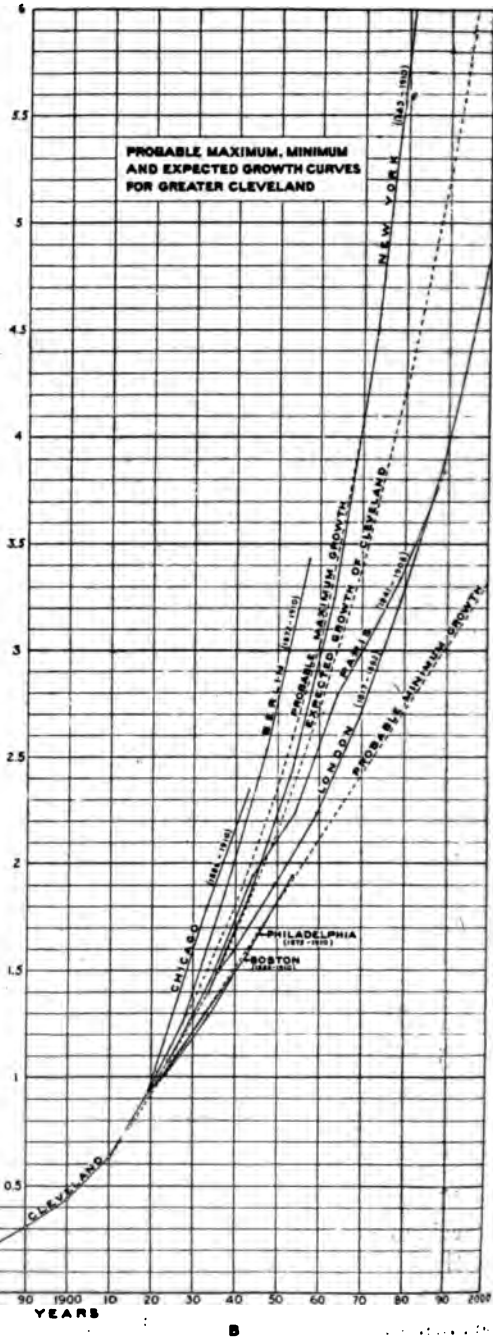
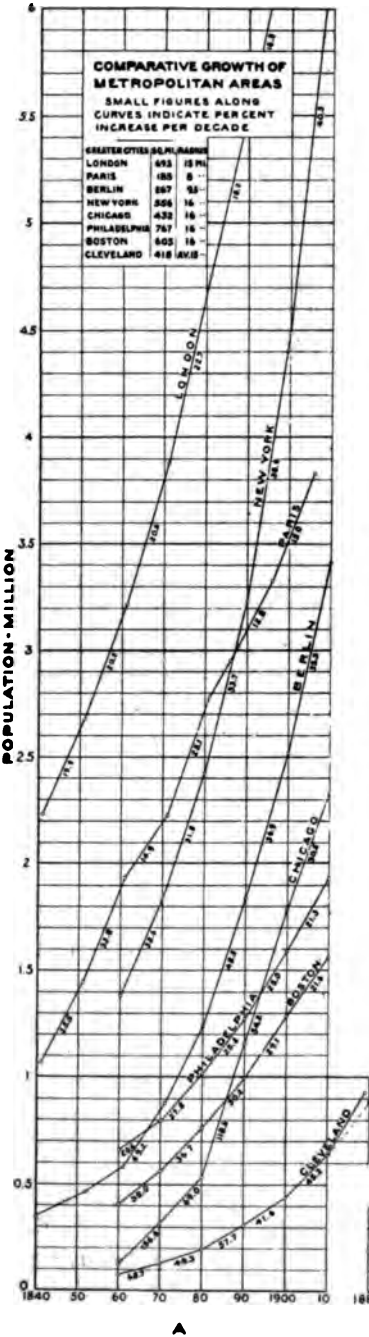
CLEVELAND, founded in 1796, incorporated as a village in 1815, and chartered as a city in 1836, is the largest city of Ohio and the fifth in size in the United States, its population in January, 1920, being 796,836. New York, Philadelphia, Chicago and Detroit are larger. With 1,075 people in 1830, Cleveland grew steadily but slowly until 1872, when, from a population of 100,000, it began a more rapid development. The city and its immediate suburbs have very close to 1,000,000 population now. The favorable commercial and economic conditions existing in Cleveland, together with its advantageous geographical location, combined with its past consistent record for steady growth, warrant the belief that within the next 20 to 25 years a population of one and a half or two million people may be expected.

The characteristic of steady growth in Cleveland is probably due largely to the diversity of business and manufacturing enterprises of the city and their relative stability. The fact that the city is favorably situated on both water and rail routes of national importance with short haul on raw materials and that it is also centrally located for direct distribution of manufactured products to all parts of the country, has undoubtedly been the basis of this steadiness of growth.

There is a very marked separation of the residential districts into groups, the separation being caused primarily by the Cuyahoga River and the valleys and hills typical of the area covered by the city, and, secondarily, by the grouping of population around or near the factories which are located principally along the steam railway lines.

A vigorous, educated, ambitious type of early settlers gave a distinctive character to Cleveland's early existence, and the junction of coal and iron with a favorable harbor and excellent rail and water transport, combined with a rich farming country and fortunate climate, have brought to Cleveland the industrious immigrant and the laborer from our Southern states until it now represents as typical an American city as can be found, with the excellencies and shortcomings in government, living standards and accomplishments which alternately make us proud and mortified.

There is no good reason to believe that the age and race composition of Cleveland have been materially modified in the past ten years unless it be by the addition of large numbers of Negroes. This has been a folk movement and no important preponderance of males has been observed, the families following soon after the arrival of the wage earner.



The 1910 census report shows the following age and race distribution for Cleveland and for the total urban population of the Registration Area of the United States.

Ages	All Classes		Native White		Foreign or Mixed Parentage		Foreign-Born White		Negro	
	Cleveland	U. S. Urban	Native Parentage Cleveland	U. S. Urban	Foreign or Mixed Parentage Cleveland	U. S. Urban	Cleveland	U. S. Urban	Cleveland	U. S. Urban
All	100%	100%	23.6%	41.6%	39.9%	28.9%	34.9%	22.6%	1.5%	6.3%
Under 5	11.1	9.8	3.3	4.7	7.4	4.3	.29	.2	.09	.5
5—14.....	17.4	17.3	4.8	8.2	10.3	6.9	2.0	.1	.16	1.1
15—24.....	20.5	20.0	4.75	8.6	9.2	6.3	6.2	3.9	.28	1.4
25—44.....	34.4	33.2	7.3	12.5	9.9	8.0	16.5	10.2	.7	2.3
45—64.....	13.4	15.2	2.6	5.8	2.8	3.1	7.7	5.4	.2	.8
65 and over	3.0	4.0	.6	1.8	.2	.3	2.0	1.7	.03	.2

For original nationality of Cleveland residents and further details of population, for the city as a whole and by districts, the reader is referred to the forthcoming data of the 1920 census, which should be published soon after the publication of this report. Re-publishing here the facts of the 1910 census seems superfluous.

Neither the Negro nor the Irish are present in Cleveland in sufficient numbers to materially affect their particular racial susceptibility to pulmonary tuberculosis and other diseases of the respiratory tract, or the morbidity or mortality of the city.

The following, compiled from the best information obtainable of the population and area of this district for the period from 1900 to 1918, inclusive, was made up before the 1920 census figures were available and indicates an overestimation of population:

#### POPULATION OF CLEVELAND AND SUBURBS

	City Within Corporate Limits	Population per Acre	City and Suburbs	Population per Acre
1900.....	381,800	17.5	421,834	5.5
1905.....	459,500	17.4	514,205	6.7
1910.....	559,900	19.0	630,577	8.2
1915.....	734,000	21.8	836,089	10.9
1918.....	855,000	22.8	971,380	12.7

The population per acre in the above table in the case of corporate Cleveland is based upon the area within the corporate limits as of each date, being 84 square miles in 1900 and 58.70 square miles in 1918. The popula-



tion per acre for the city and suburbs in the right-hand column of the same table is calculated upon the basis of 119.1 square miles as the area occupied by the 971,380 estimated population of 1918.

Politically, the city is divided into 26 wards and 488 precincts, but since there are no continuous or reliable vital statistics available (*i. e.*, births, deaths or sickness) by these subdivisions, the only subdivisions which will be used in this report will be the eight health districts as established in 1917, for which much useful information has been recorded. It is thought to be a matter of much importance to future municipal government, especially in the field of public health, and for the private health welfare, and relief agencies of the city that the census units or forty-acre tracts, or as they are called in other cities, sanitary areas, used by the Federal Census Bureau for the tabulation of population data in 1910 and 1920, be made the basis of all administrative areas of the city, and that both public and private agencies in arranging their field services use districts which include multiples of the census units. In this way the cumulative value of orderly collection of facts will soon contribute to the development of logical programs of action. At present there is little or no data available except by the city as a whole, a unit too large for the detailed analysis now required in intensive public health work. A map showing the sanitary areas will be found in Part II. (Fig. II.)

The densest quarter-mile square sections are found in wards 11 and 12, south of Euclid and east of 14th Street, where the population ranges from 90 to 95 persons per acre. North of Euclid and east of 55th Street there are districts ranging from 50 to 55 persons per acre and on the West Side, in the 4th and 5th wards, the population ranges from 50 to 75 persons per acre for relatively small districts. It will be seen, therefore, that these maximum densities are far below what are termed tenement districts in New York, Chicago and Philadelphia, where 250 persons per acre are quite frequently found over considerable areas. In limited districts as many as 640 people per acre are found in the dense East Side sections of Manhattan Borough of the city of New York.

In Cleveland, therefore, we have no acutely crowded districts and the general average population per acre is about 18 as against 20 for the city of Chicago, 19 for the city of Detroit and 164 for Manhattan Island in New York City.

Greater New York for the whole metropolitan district has about 26 persons per acre as against 13 persons per acre for a similar territory in Cleveland.

The fact that the city has developed east and southeast of the central retail and business districts to a greater degree than west and southwest is accounted for largely by former absence of convenient bridges across the valley of the Cuyahoga River and to lack of development of the water and sewage systems in the southwest side of the city. The general characteristic

of Cleveland's residential districts is that of detached one and two-family residences and the result of using this form of homes is to create a city with relatively low population densities and consequent extended areas.

A fact of some possible importance in health development and maintenance of the industrial workers of Cleveland is that a larger portion of them live within easy daily walking distance of their work than is the case in Chicago or Detroit. To quote from the report of the Rapid Transit Commission, "A general inquiry made by us into the question of employment districts and residential locations, develops the fact that there is an unusually large residential grouping of factory workers about their places of employment throughout the city of Cleveland. Thus, two groups of factories on the West Side have 35% and 50%, respectively of their employes within walking distance. On the East Side a factory group in the 79th Street district has 60% walking employes and another in the same district has 75% walkers. Taking the whole East Side group of factories apparently only 15% to 20% of the employes live on the West Side of the city.

This condition is unusual compared with other large cities. In Detroit an exhaustive canvass of the factories showed only one group with 75% of walkers, the balance of factories showing from 16 % to 40% of their employes walking and the average being only 28.2% for the city. In Chicago the situation was similar, the average walkers out of 350,000 factory employes being only 24.4% and any group showing over 40% was unusual. Cleveland has 48% of walkers."

The report on Housing Conditions of War Workers in Cleveland made by the Committee on Housing and Sanitation of the Cleveland Chamber of Commerce and by the United States Home Registration Service in October, 1918, states:

#### "TIME SPENT IN GOING TO WORK"

"Out of a total of 21,832 wage earners, 10,364, or 48%, walk to and from their work. This proximity of industry to the home is desirable, and, in a city like Cleveland, with its factories well distributed and accessible to residential sections, it ought not to be impossible. Out of the number who walk, 945 spend from 30 to 60 minutes walking to work or from one to two hours a day in going to and coming from work. \* \* \* \* \* 52% of the wage earners ride to their work. Of this number 5,059 spend from 30 to 60 minutes riding one way, or from one to two hours going to and coming from work each day. 1,411 spend more than one hour going to work, or more than two hours going and coming from work each day. More than 300 spend more than three hours a day in going to and coming from work each day. These latter figures indicate a waste of time and energy on the part of the worker that must be detrimental to his efficiency as a worker."

For reference there is included here a table of population density per square mile and per acre for Cleveland and its suburbs included within Cuyahoga County. We wish here to acknowledge our debt to the Board of Rapid Transit Commissioners for the privilege of quoting freely from their report in the foregoing pages and for the use of the two charts.

POPULATION AND AREA OF CLEVELAND AND SUBDIVISIONS IN  
CUYAHOGA COUNTY—1918

*Report to Board of Rapid Transit Commissioners*

Corporate Name	Population Estimated	Area Sq. Miles	Population Per Sq. Mile	Population Per Acre
Cleveland East Side.....	607,400	39.4	15,416.2	24.1
Cleveland West Side.....	247,600	19.3	12,829.0	20.0
East Cleveland.....	25,000	3.0	8,333.3	13.0
Lakewood.....	42,800	5.4	7,926.0	12.4
Bay Village.....	608	4.8	126.5	0.2
Bedford Township.....	1,620	18.7	86.7	0.1
Bedford Village.....	2,796	2.3	1,215.1	1.9
Beechwood.....	325	4.5	72.3	0.1
Berea.....	3,500	1.3	2,692.3	4.2
Bratenahl.....	1,252	1.0	1,252.0	2.0
Brecksville Township.....	1,063	28.0	38.1	0.1
Brookpark Village.....	896	10.2	87.8	0.1
Brooklyn Township.....	855	4.6	185.6	0.3
Brooklyn Heights Village.....	592	2.8	211.4	0.3
Chagrin Falls.....	2,164	2.5	865.6	1.3
Chagrin Falls Township.....	300	4.8	62.6	0.1
Cleveland Heights.....	15,000	7.6	1,973.7	3.1
Claribel.....	1,593	3.5	455.1	0.7
Dover Village.....	1,800	16.5	109.0	0.2
East View.....	422	2.2	191.8	0.3
Euclidville.....	1,500	2.8	535.7	0.8
Euclid Village.....	3,236	11.4	283.8	0.4
Fairview Village.....	600	3.5	171.3	0.3
Glenwillow.....	250	2.8	89.5	0.1
Goldwood Township.....	498	2.4	207.9	0.3
Idlewood.....	90	1.9	47.3	0.1
Independence Township.....	329	5.0	65.8	0.1
Independence Village.....	1,280	10.0	128.0	0.2
Linndale.....	366	0.1	3,660.0	5.7
Maple Heights Village.....	2,200	4.5	488.9	0.8
Mayfield Township.....	1,160	23.8	48.8	0.1
Middleburg Township.....	1,838	11.7	157.3	0.2
Newburgh Heights Village, including				
Cuyahoga Heights Village.....	3,300	3.8	6,600.0	10.3

**ENVIRONMENT AND SANITATION**

**45**

North Olmsted Village.....	1,232	11.9	103.5	0.2
North Randall Village.....	70	0.5	140.0	0.2
Olmsted Township.....	1,880	15.6	120.5	0.2
Olmsted Falls Village.....	560	0.8	700.0	1.1
Orange Township.....	860	23.5	36.6	0.1
Parma Township.....	1,866	20.4	89.8	0.1
Parma Heights Village.....	355	3.9	91.2	0.1
Rocky River.....	1,855	4.3	431.4	0.7
Royalton Township.....	1,132	25.5	44.5	0.1
Shaker Heights Village.....	3,000	4.4	681.8	1.1
South Euclid.....	2,400	5.8	413.8	0.6
South Newburgh.....	2,400	13.7	175.2	0.3
Solon Township.....	990	20.0	49.5	0.1
Strongsville.....	1,540	24.5	62.9	0.1
Warrensville.....	391	10.3	38.0	0.1
West Park .....	8,000	12.9	620.1	1.0
<hr/>				
Total.....	1,002,728	464.1		
<hr/>				
Average .....			2161.0	3.376

## Topography and Climate

CLEVELAND occupies an area of 58.7 square miles, extending for about 20 miles along the southern shore of Lake Erie and situated on both sides of the Cuyahoga River where it empties into Lake Erie. Its altitude is 600 feet above sea level.

The gravel, sand, clay and shale which compose the various benches and valleys of the glacial drift deposit which makes the plateau upon which the city is built, vary greatly in their surface drainage qualities from what may be called perfect subsoil drainage in the sand and gravel regions, to impermeable clay and a high ground-water level, for instance in the Collinwood region. The surrounding country is rolling hills with extensive woods and clear open farms. Deep gullies and valleys cut across the plateau in many places within the city limits.

The city is divided for political purposes into 26 wards and 488 precincts.

For purposes of the Federal Census the city is divided into 131 Sanitary Areas, as indicated in Fig. II., Part II.

For convenience in local health administration the city is divided into eight health districts, as indicated on the frontispiece map of this part showing distribution of population.

The watershed is, of course, solely into Lake Erie. The only important relationship between the geological formation and the health of the people is the same that is noticed widely in the lake region where the water supply comes wholly or in large measure from the glacial drift; namely, the prevalence of endemic goitre, which can be found congenitally in young children and widespread among girls and women who have lived continuously in this general area for many years.

### CLIMATE

The data obtained from the offices of the United States Weather Bureau in Cleveland show a mean temperature of 26.8° F. for January and of 70.1° F. for July (1871-1918) and for the year 49.0° F. The mean daily range of temperature is 14.7° F. Sudden changes are not uncommon in the fall and winter with northwest winds.

Temperature extremes have varied in the past 48 years from -17° F. in January, -16° F. in February, 4° F. and zero F. in November and 12° F. in December to a maximum of 92° F. in May, 96° F. in June, 97° F. in July, 100° F. in August and 98° F. in September.

There are few instances where the temperatures below zero F. or above 90° F. were recorded for more than four days consecutively.

The mean annual precipitation at Cleveland since 1871 has been 34.39 inches, distributed with remarkable evenness throughout the year.

The mean relative humidity in Cleveland, Buffalo and Detroit at 8 A. M. and 8 P. M. have been recorded as follows:

	8 A. M.			8 P. M.		
	Cleveland	Buffalo	Detroit	Cleveland	Buffalo	Detroit
Winter.....	79	77	84	75	75	80
Spring.....	76	73	76	68	70	68
Summer.....	73	75	75	66	69	64
Fall.....	77	75	81	70	71	71
Year.....	76	71	79	70	75	71

Cleveland, as measured by relative humidity in the morning, stands between Buffalo and Detroit, but according to relative humidity at night, Cleveland has less than either of the other two lake cities.

The prevailing winds are westerly, which accounts for the greater cleanliness of air and exposed building surfaces and the better vegetation on the west side of the city. The smoke of the valley and the center of the city causes a serious nuisance and menace to health most of the time well out to 105th Street on the East Side, and at some times extending in an appreciable curtain offensive to smell even to the Heights and select residence district further east. At the present rate of industrial development and with the existing indifference to the smoke nuisance, the prevailing winds will in a few years make the fine buildings, Museum, University, etc., on both sides of Wade Park unsightly and the use of them far from attractive. The average velocity of the wind is 13.6 miles per hour, a rate somewhat less than that prevailing in New York City (15.5).

There is nothing important in Cleveland's climate in relation to health. It is a moderate northern climate, typical of the Lake Region, but without excessive humidity, precipitation, winds or extremes of temperature, on the whole a good climate, but its effects for good to a considerable degree offset by the changes produced in the air and light by the constant fall of smoke and fumes that are characteristic of the city and are seen from afar on approaching the city by water.

At a latitude of  $41^{\circ} 30'$  and longitude  $81^{\circ} 42'$ , Cleveland is credited with a possible total hours of sunshine in the year of 4,457.4. By actual measurement Cleveland has in a year 2,367.2 hours of sunshine, or 53.1% of the possible. In the four months of December to March Cleveland has the benefit of only 34% of the theoretically possible hours of sunshine. How much of this loss is due to the unfavorable conditions of smoke pollution of the air cannot be stated.

## Housing

THE work, the publications, the influence upon public opinion, upon laws, building construction and sanitary enforcement of ordinances, of the Committee on Housing Conditions of the Cleveland Chamber of Commerce since its appointment in 1912, makes it unnecessary to treat of more than a few of the features of existing housing inadequacies. The City Plan Commission, which is at present developing the necessary maps, the principles and detailed description of uses upon which a zoning ordinance for the city can be approved, is the great constructive force preparing to prevent repetition of past errors and to insure an orderly and safe development of building construction and property uses for the future.

In this interesting American method of municipal control of building and use of property, there is fortunately a common advantage and value appreciated by real estate interests and by those concerned with community health. To eliminate or reduce to the least practicable minimum the erection of tenements is one of the objectives to be desired by sanitarians, because although sanitary conditions may be maintained in premises technically tenements, the lot crowding and the room crowding that usually occur to a greater degree in buildings occupied by three or more families than in single or two-family houses, are found to be accompanied by the three important evidences of unsuitable living conditions: namely, high incidence of communicable disease, high infant mortality rate and high general or crude death rate.

These three conditions prevail in Cleveland as they do in other cities where there is the greatest density of population. Where there is the greatest density of population there is found the worst condition of lot and room crowding. The races found in the worst houses in Cleveland are the Negroes, the Italians, the Jews and the foreign-born Slavs, Slovaks, Lithuanians and Poles. The poor, those ignorant of their rights under the law, in the main the negroes and the foreign-born, suffer not only from the economic disadvantages from which they are emerging, but they do not receive that protection from the law to which they are entitled.

Careful and repeated inspection of what is known as the Hill district, of the Woodland district, of the downtown lodging house district on the East Side, and of the so-called Triangle at the west end of the Superior Avenue bridge, during the winter and spring of 1920, disclosed conditions in violation of all of the important sections of the ordinances dealing with tenements and sanitation of occupied premises.

It was often said by city employes and by others in excuse of the intolerably bad conditions of occupancy in the Hill region that this is all to be demolished in the course of railroad improvements. In the meantime it certainly points to astonishing indifference on the part of the Bureau of Sanitation, which is held responsible for the enforcement of Articles III., IV. and V. of Section A, Articles 76-84 of City Ordinance 32186-A, which was passed October 18, 1915, and in force January 1, 1916 that the conditions reported below could exist, and yet from the evidence of district physicians, sanitary

inspectors, visiting nurses and residents, the conditions have existed as reported and found for many years past without any evidence of effective remedial action by the city authorities or by the owners of the properties.

Field notes of the investigator on May 12, 1920, follow. These observations were verified by a medical officer in the city employ, a physician who had had considerable experience in sanitation and epidemiology in the army here and abroad, and whose present work has convinced him of the intimate causal relationship between the filth, neglect, darkness, lack of ventilation and crowding found in the homes, and the amount of invalidism among children and adults in these premises.

#### ***Berg Street***

Garbage piled high, obstructing the gutter and sidewalk. The pile was two feet high, 10 feet wide and 16 feet long. Maggots were developing in this pile of garbage, human and animal excrement and food waste.

#### ***Between Berg and Jerome Court***

Yard privies with broken seats, fecal deposits on floor, seats and side of privies, obstructing drain. Bowl filled with human waste. (No lights in any of the halls visited through this inspection trip, neither fixtures nor tips for lighting). Had typhoid fever case here last year.

#### ***Jerome Alley***

Garbage bins at 707 filled with rotting accumulation of winter. In the house, husband and wife and six children in two rooms. No gas, no lamps; yard closets, no water running, privies have broken bowl surface, rotting wood sides, floor and roof, general distribution of human and animal fecal waste.

#### ***Between Berg and Jerome Court***

Garbage in mass, acrid, stinking, fly breeding.

#### ***703 Berg Street***

Three rooms, two adults and three children. No provision for lighting; cooking, washing and sleeping in same room. In sheds, under stairways, rabbits, pigeons and chickens breeding and at large. Privies in foul, unsanitary condition; surface and privy drainage washing upon alley where children are playing.

#### ***General Area***

Central, Hill, Berg and Commerce down to the flats. A mass of shacks not fit for cattle to be kept in. Spaces between buildings from six inches to two feet wide, packed with rotting accumulations thrown in from the alleys above. Privy vaults and sink holes that are not protected against leakage of fecal accumulations to surrounding area, accessible to children and occupants of premises.



1. BACK OF BERG STREET,  
OVERLOOKING JEROME COURT

*This truant boy "gets away from the kids" in his "reading-room" at the rear of an out-house on Berg Street.*



2. JEROME COURT, HAYMARKET  
DISTRICT

*Making mud-pies on "the Boulevard," which some facetious tenant has christened Jerome Court. The children are playing in and around an open pigsty.*



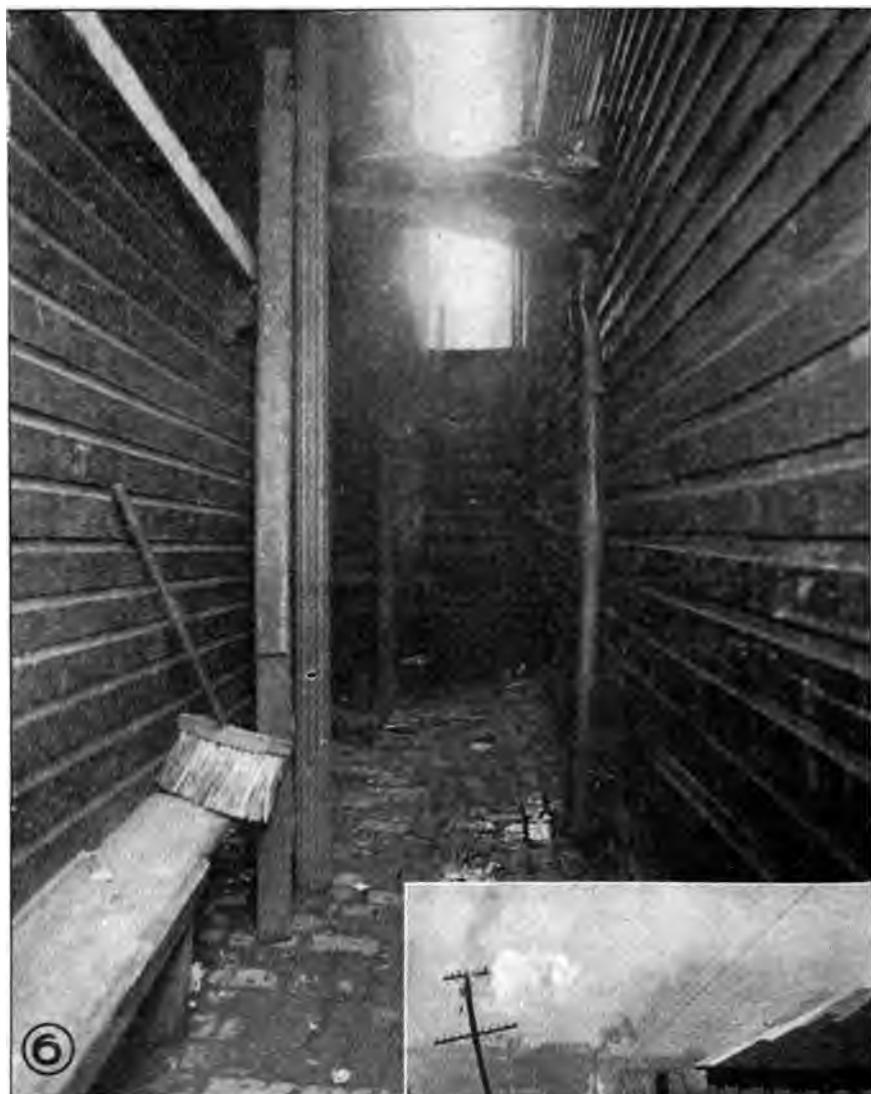
3. ON ANDES ALLEY



4. VACANT LOT ON JEROME COURT

*The tearing down of buildings has been begun here but left unfinished.  
This lot and two others are the only playground space for many children living in this district.*

5. A BACKYARD PLAYGROUND IN HAY-MARKET DISTRICT.



6. PASSAGEWAY UP THE HILL FROM THE RIVER BETWEEN TENEMENTS.

*It is possible to walk up from Canal Road to Andes Alley on five streets through such passages. No sunlight can reach the rooms which open off these passages.*

7. MENCKEN AND HILL STREETS, HAYMARKET DISTRICT

*This view shows how houses are built up the East Ninth Street hill between Mencken and Hill Streets. Some of the dwellings are nothing more than burrows in the ground. One can go into a tenement on Mencken Street and by means of rickety stairs wend his way across Jerome Court, Berg Street and out on Hill without seeing the light of day.*



From observations made it would appear that Article III., Sections 53, 54, 55, 56-2 and 4, and 59, referring to buildings used as tenements before January 1, 1916, were violated on most of the premises inspected.

Complaints and reports of the conditions as noted above had been made at intervals over a period of a year with no remedial action by the Bureau of Sanitation.

In another section, where the excuse of impending demolition of premises couldnot be offered, quite similar conditions were found, as follows:

***Orange Avenue, opposite Depot***

Broken toilets, garbage accumulation which has been on premises since August, 1919.

***2003 Orange Avenue***

Broken toilets, no lights in hall, alley with all winter accumulation of garbage.

***2515 Orange Avenue***

Privy with leaky sewer outlet where bowl waste discharges into open pit, rotting boards on floor of shanty. Pile of manure in yard since August, 1919.

***2515 Orange Avenue, Second Floor***

Toilet opening into the kitchen and living room. No ventilation except through the kitchen. Dangerously loose flooring. No lighting in halls.

The worst conditions were found in lodging houses. With the exception of the lodging houses maintained by the Salvation Army, which complied with legal requirements and presented a picture of order and cleanliness, the lodging houses in Cleveland, including the one maintained by the New York Central Railroad in the basement of the Orange Avenue Freight depot, violated all reasonable provisions for sanitary living and disease prevention. Among the most important nuisances found were inadequate light and ventilation, old, soiled, stained bed covering, filthy floors, overcrowding, lack of space between bunks, etc. The licenses issued by the State Fire Marshal at Columbus, Ohio, are obtained without compliance with reasonable standards of cleanliness. There is no routine periodical inspection of lodging houses by state or city authorities. The cheapest lodging houses operated in the densest areas of New York's lower East Side shine by comparison with Cleveland's "flop-houses," which are a disgrace.

In response to the frequent specific complaints by the district physicians of unsanitary conditions in lodging houses, the Bureau of Sanitation offers the excuse that there is no authority under the law to abate the nuisances described.

The following extracts from notes of the investigator give a typical picture of Cleveland's lodging houses, the clean and the filthy:

***Salvation Army Citadel***

Has provision for 166 men, each in single partitioned rooms, the partitions going to within two feet of the ceiling, the space above being divided by an iron grill. Each room has 48 feet of floor space and 480 cubic feet of air space. Toilet seats clogged and foul because of use of toilet paper instead of towels for drying hands in the wash places. Premises otherwise clean, with clean linen on beds, clean towels supplied each night. License to operate obtained from the Department of State Fire Marshal, at Columbus, \$15.00 a year. Original inspection of premises is made by representative from Columbus. No re-inspection. Occasionally visited by sanitary officer of Cleveland Health Division.

***Metropole***

Another Salvation Army lodging house where a license of \$20.00 a year is paid, having accommodation for more than 200 men. Some single rooms as described above (Citadel), others large, well-ventilated, high-ceilinged dormitories, the beds being double-tier iron-spring bunks. Each separate room having a floor space of 40 square feet and air space of 400 cubic feet, the dormitory having 45 square feet of space per individual and 450 cubic feet air space per capita. Premises in clean condition. Shower baths in cellar. Laundry tubs for men to wash clothes and drying room for their use. Usual standards of simplicity and adequate cleanliness that one finds in Salvation Army quarters. Occasionally inspected by the Health Division. Charge of 50 cents per room and 35 cents per bed in dormitory.

***Palisades, 2146 Ontario Street***

One flight up to pool room, lunch counter, general lounging room and a few unlighted, unventilated cabins with semi-partitions, the ceiling of each being formed by wire gratings on which newspapers, rags and rubbish have accumulated almost to the exclusion of air. Two floors above this used for lodging purposes, the rooms being wholly inadequate as to light, floor space and cubic air space. The washrooms are filthy, the bedding old, the single sheet and so-called pillow case being grey and brown with dirt and discharges, the mattresses stained and torn, the coverlets filthy with stains of vermin and men. The per capita floor space allowed was 35 square feet and the air space 280 cubic feet. There was no light in the separate rooms and many of the rooms were pitch dark in the middle of a bright afternoon. Kerosene lamps were had by some of the men in the rooms and some of the rooms were furnished by the men with all kinds of personal belongings. Men were found who had lived in these rooms for months at a time at \$2.00 a week. No proprietor or clerk on the premises and did not learn whether place was licensed. Neither as to cleanliness, air space, bedding or lighting does this building comply with what are recognized standards for even the cheapest lodging houses in New York City.

***131 West Prospect Avenue***

Two-story building. First floor occupied by lunch counter, kitchen, lounge room and card room. Crowded with Negroes, Italians, Poles, etc. Eleven sleeping rooms on the second floor in rear; the proprietor occupying

the front. These rooms are furnished with beds with filthy mattresses and bedding. Some beds double. Some rooms with two cots. Floor space 35 square feet per capita. The rooms with the exception of one had each an outside window. This place has no license because the inspector from Columbus said that with so small a number of rooms it was unnecessary to have a license.

The serving of food in the restaurant on the ground floor was under the foulest imaginable conditions. Butter was picked out of the bowls with dirty hands. Food for serving was standing around on the floor in the kitchen and behind the lunch counter. No order, cleanliness or provision for decent washing of dishes or hands. The apparently total neglect of all provision for decent food preparation is one of the striking features observed on visiting a large number of eating houses and lunch counters feeding the transient or lodging-house public of the city.

#### *Lodging House maintained at the New York Central Freight Depot*

132 men were in one cellar space entirely below ground excepting for a space of six inches which permits of partially open windows, looking out at street level on one side and on car tracks upon the other. Cubic space 240 feet per capita. Double-deck bunks, some for two people each; bunks two and three tiers deep, so close together that a sick man must be reached over the foot of the bed for examination and treatment. Only artificial light possible. Provision for toilets and wash basins excellent and adequate. Another room for 72 men, 290 cubic feet per capita, with the same double-deck bunks in two and three rows, a place with insufficient ventilation and light to permit of the requirements of housing and unfit for human habitation according to the Building Code of almost any of the cities of the United States. Reported by district physician to be a constant source for medical care at the expense of the city through the winter, when the condition, due to lack of ventilation, was beyond belief. There was no medical care provided by the company for this group of not less than 200 and frequently 250 to 300 men. One exhaust fan opening out at the level of the railroad tracks offers opportunity for change of air, but in winter the windows were kept shut constantly, and the intake of air must come in any event from the street level with all the dust of the large truck spaces of the freight yard.

### **RECOMMENDATIONS**

It is recommended that:

The activities of the Chamber of Commerce in the interest of suitable housing in single or two-family buildings be continued, and that there be added to the present important financial undertaking to facilitate home building for wage earners, educational propaganda among householders as to proper and legal standards of construction, equipment and occupancy of living premises, so that those owning or renting homes may know their own duties and privileges or rights, as well as the degree and kind of protection they are entitled to at the hands of the city government for the protection of their health.

The undertaking of the City Plan Commission to establish a plan by zones for the construction and use of buildings be vigorously and continuously supported by all civic agencies such as the Chamber of Commerce, the Welfare Federation, the Consumers' League, etc., until the city government has enacted into law adequate restrictions and provisions for the future.

The existing laws affecting the occupancy of premises, whether tenements, lodging houses or single-family houses now used for multiple family use, be enforced consistently, impartially and vigorously, to the end that the existing disgraceful conditions in and about living quarters of the poor in Cleveland be abated.

The proposed Sanitary Code be enacted into law at the earliest possible date to give the Division of Health the necessary authority to take action in lodging houses and to enforce the abatement of nuisances.

The authority to license, inspect, control and close lodging houses in Cleveland be vested in the office of the Commissioner of Health or the Director of Welfare of Cleveland, if necessary, as the agent of the State Fire Marshal at Columbus.

## Water Supply

WITHOUT repeating the historical record of events, it may be briefly stated here that Cleveland has been through the same phases of indifference, alarm, actual fear, confidence and now pride with regard to municipal water supply which has been characteristic of many lake cities. Cleveland's water supply is now protected by the location of intake cribs in Lake Erie, by filtration and by chlorination, so that the citizens receive, in a small part of the city for which filtered water cannot be obtained by construction already planned for is completed, a safe, potable water, attractive in appearance and suitable for all domestic and commercial uses. There is no reason to believe that communicable disease of any kind is now being distributed by the public water supply. No one in Cleveland needs to buy private waters, except to satisfy some whim of taste or appearance.

The source of supply is obviously adequate through the two intakes, one four and one-half miles from the shore in Lake Erie. One crib is of the exposed, the other of the submerged type. Tunnels connect these with the pumping stations at the foot of East 49th Street and on Divisadero Avenue, at the foot of West 45th Street, 90 per cent of the pumpage being at present at the latter station, where the filtration plant is in operation, with a daily capacity of about 150,000,000 gallons. Steel pipe lines carry the water to the chemical house whence it passes to the mixing chamber. Doses of iron (110-140 lbs. per million gallons) and lime (85-100 lbs. per million gallons) are supplied automatically in solution to the raw water in the pipe lines, according to the rate of flow and the condition of the water. Flocculation of removable matter is facilitated in the mixing chambers, and settling out takes place between the mixing chambers and the filter build-

The filters are cleaned every 10 to 40 hours, according to the condition of the water, by reversing the flow through the beds. The filtered water is stored in a 20 million gallon reservoir, whence it is distributed by pumps through the city pipe system. The lake water carries but little suspended matter for most of the year and purification is needed chiefly to reduce the bacterial content of the water. There is a reservoir for surplus water. At the latter part of most of the year and purification is needed chiefly to reduce bacterial content of the water. There is a reservoir for surplus water. At the pumping station on the East Side the process is identical except that filtration is not yet provided, though planned for. Most of the water distributed on the East Side of the city, as well as all that for the West Side, comes from the West Side station and has been filtered as well as chlorinated.

Complaints of unpleasant taste in the water have been found justified at times, not because of excessive or irregular use of lime or chemicals applied at the pumping stations, but because of pollution of the water in the vicinity of the intake cribs by melting ice or obstructed flow from the Cuyahoga River, which occurs under certain conditions of wind and temperature, and always in the winter season.

The water is tested daily both by the laboratory of the Water Division and the Department of Public Utilities and by the laboratory of the Division



of Health, sample: being taken regularly from points at the pumping station before and after filtration and chlorination, and at various police stations and other suitable points in the city. Tables giving the results of chemical and bacteriological tests made at the two laboratories show consistent findings in the effect of chlorine treatment (.271-.454 parts per million) in diminishing the occurrence of the presumptive test for fermentative organisms (according to standards proposed by the American Public Health Association), and also give evidence of the uniformity in tests made of water collected at widely distributed points on both sides of the city.

One of the very considerable economies to the householder is the degree of softness of the public water supply provided by the method of treatment. The saving in soap alone to the people of Cleveland is worth many times the cost of chemical treatment of the water. When the plans already decided upon are completed there will be pumped and filtered water in abundance for one and a half to two million people.

The city sells water to Lakewood, East Cleveland, Cleveland Heights, Shaker Heights and West Park. The city is metered and wasted water is paid for. Water is now furnished for a population of about one million people who reside in an area of about 110 square miles. The average rate of consumption is estimated at from 130 to 135 million gallons daily and the maximum rate of consumption at 200 million gallons daily. Nearly the entire pumpage is accounted for, a fact which would indicate that the distribution system is in good condition. Improvements in the water supply and distribution have always been more than met by the water rates, which are not excessive.

The growth of Cleveland and its vicinity is an assured fact, consequently, at intervals water facilities must be increased to meet the growing demand. With sewage treatment provided only to the extent of safeguarding bathing beach waters and minimizing the foul condition of the Cuyahoga River, the contamination of the lake shore waters will increase with the growth of the city. Therefore, in completing present plans and in making future ones the filtration of the city water should be considered of paramount importance.

With two filtration plants, each with a capacity of 150 million gallons daily, it seems that pure and wholesome water will be furnished this community for a number of years. However, recently a committee of Engineers, Messrs. Hoffman, Herron & Frazier, studied the future requirements of the Water Department and concluded that by the year 1940 two additional filtration plants, one east and one west of the Cuyahoga River, would probably be necessary.

There is no reason to believe that the water supply is responsible for any of the typhoid fever, dysentery or other diarrheal diseases reported and analyzed, since chlorination of the entire supply was established. The very low typhoid rate of Cleveland during the year 1919 is an excellent proof of the safety of the public water supply.

With regard to private unauthorized and individual well supplies of water used in the outlying districts of the city and its suburbs not yet reached

by the public supply, the situation is unsatisfactory. There is no map or census of these supplies, and there is no system of inspection, or permit system controlling the use of other than public water supplies by the Division of Health. Some of the cases of enteric infection, for which the source has not been traced in the great majority of cases may well be due to individual well supplies exposed to surface or other contamination regularly or occasionally. No one should be permitted to use water supply other than the public source unless the quality of water and the sanitary safety of its environment and drainage area are known to the Division of Health and a permit or license for the use of such water is issued and only on the basis of bacteriological and sanitary control at frequent intervals.

It is recommended that:

The plans for filtration as prepared for the East 45th Street pumping station be carried to completion and that the present chemical and bacteriological standards for quality and purity of the water supply be maintained.

The Division of Health make a careful survey to locate all sources of water supply in Cleveland other than the public supply and permit the use of only such as are found by chemical, bacteriological and sanitary standards to be continuously fit for human use.

## Sewage Disposal\*

WHERE, as in Cleveland, the drinking water is taken from the same natural source into which surface drainage and household and industrial sewage naturally empties by gravity, the collection, treatment and disposal of sewage becomes of almost as much importance as the purification of the water supply. Moreover, the use of the lake shore and beaches in and near the city for recreation purposes, boating, paddling, bathing, etc., is an added reason to exclude or reduce to a safe dilution the sewage effluent. Cleveland's present sewer system for collection, the facilities for treatment and the location of discharge outlets in deep water far from shore, as constructed or planned for, and under contract, represent the best engineering opinion and the result of important practical experiments with a great variety of treatment and disposal methods.

Until the city has so treated its own sewage from the areas which will contribute to the discharge into the upper part of the Cuyahoga River as to escape criticism and avoid nuisance, the industrial plants along the banks of the river cannot be required to abate the nuisances they are so obviously and so offensively guilty of at present. The opportunities for the great industries of Cleveland to contribute to the cleanliness of air and water are so ample that one would think they might tempt the imagination of some engineer among them.

The bird that fouls its own nest is a true "white-wing" in comparison with the collection of industrial plants upon the flats of the Cuyahoga River.

The Cleveland program includes the controlling of the purity of the drinking water by treatment during the immediate future in two large filtration plants and the safeguarding of the bathing beach waters from sewage pollution by treating the sewage in three large treatment plants. Treating the sewage is the first major step in eliminating the foul and objectionable conditions existing in the water of Cuyahoga River, while another benefit to be derived pertains to the prevention of the overtaxing or overloading the reasonable performance of the water purification plants. Another important benefit to be expected, although chiefly sentimental, is the meeting of the opposition of the public to the use of a source of water for drinking purposes in which there exists even a suspicion of sewage pollution.

The policy which has been adopted in Cleveland is similar to that in general use in this country and abroad, namely: controlling the purity of the water by filtration and treating the sewage only to a partial extent. Lake Erie waters near centers of population are becoming, year by year, less reliable as a source for a water supply without treatment. Filtration in conjunction with sterilizing agents will alone make the public water supply of this community satisfactory under existing conditions, and it is with this

\* The Survey is indebted to various officers in the employ of the city for most of the information regarding water supply and sewage in Cleveland, and in particular we wish to acknowledge the important statements of fact obtained from—

Mr. George B. Gascoigne, Sanitary Engineer, Division of Engineering of the Department of Public Service, and

Dr. Roger Perkins, Chief of the Bureau of Laboratories of the Division of Health and Prevention of Bacteriology and Hygiene at the Western Reserve University Medical School.

viewpoint in mind that the problem of sewage treatment has been dealt with. With efficient operation of both water and sewage plants two barriers against the contamination of the water supply will be established.

The program adopted is representative of the progressive spirit in the community and it should be consummated in its entirety. It demands the attention of the public until all of the contemplated structures are in use, and it should be stated that the efficient operation of the sewerage and sewage treatment works is just as important as the installation of the works.

#### SEWERAGE

The city of Cleveland is seweraged upon the combined plan, *i. e.*, one set of sewers cares for the storm water and sewage. Lake Erie is the ultimate dumping ground for all the sewage flowing through the city system, which may be described as a series of main sewers having outlets for excess storm water emptying either directly into the lake or into streams tributary thereto. The sanitary sewage, together with the first flush of storm water, is to be collected from the above-mentioned main sewers by means of a system of intercepting sewers which discharge at the selected points for treatment. These treatment sites are three in number, two on the lake front and one on the Cuyahoga River.

The first sewers were built in Cleveland about 70 years ago, and today we find very few of these in use. The rapid growth of the city has made necessary the construction of many miles of sewers. However, the increase in sewer mileage apparently has not kept pace with the increase in street mileage. There are many factors governing this condition, principal among which is the inadequacy of financing.

The demand for sewers includes projects for main sewers, some of which are partially completed, sewers for recently annexed portions of the city and sewers for undeveloped portions. Furthermore, there are many sewers needing rebuilding in advance of paving, and there are a number of streams which must be maintained as storm water channels which should be converted into storm sewers. The city now has about 17 miles of streets and only about 15 miles of sewers to the square mile. In order to make the sewer mileage equal to the street mileage, an additional sewer length of about 106 miles would be required.

It is found that the city has been expending for sewer purposes about \$1,000,000 each year. Mr. Robert Hoffman, Commissioner of Engineering and Construction, estimates that the city will need to expend about \$1,000,000 each year for the next 10 to 15 years before it can provide sewerage facilities commensurate with the present and future demand. Available data tend to show that at the present time the city is about 88 per cent seweraged, a ratio which compares favorably with that found in most of the larger cities.

Under existing laws the city as a whole must pay the cost of sewers located within street intersections and at least two per cent of the remaining cost. Abutting property can not be assessed for more than would be required to pay the cost of a local sewer, so that the excess cost of any branch

or main sewer over or above what a local sewer would cost must be borne by the city as a whole. This portion of the cost is substantial and accounts in large measure for the amount the city must pay. The city's portion of the cost is usually financed through the sale of bonds issued for such purposes, but the amount of bonds which can be issued is limited in a number of ways.

#### SEWAGE TREATMENT

There is evidence that the bathing beach waters along the lake front are polluted by sewage now discharged at the main sewer outlets and at times by the storm-water emergency outlets discharging diluted sewage. Proof of the origin and spread of communicable diseases by sewage-polluted water used for bathing purposes, is difficult to obtain, but sufficient instances of typhoid fever, non-specific intestinal infections and of infectious conjunctivitis have been observed in New York City and elsewhere as the result of unrestricted use of bathing beaches near sewer outfalls, justify our protecting bathing waters against pollution or forbidding bathing when the pollution can be demonstrated. Bacteriological proof of the degree of sewage pollution is usually unnecessary, for sight and smell suffice to give warning and evidence. The locations for the sewage plants, together with the degree of treatment necessary and the type of sewage plants best suited to local conditions, were determined from tests on the sewage discharged at the East 140th Street and the West 58th Street outlets.

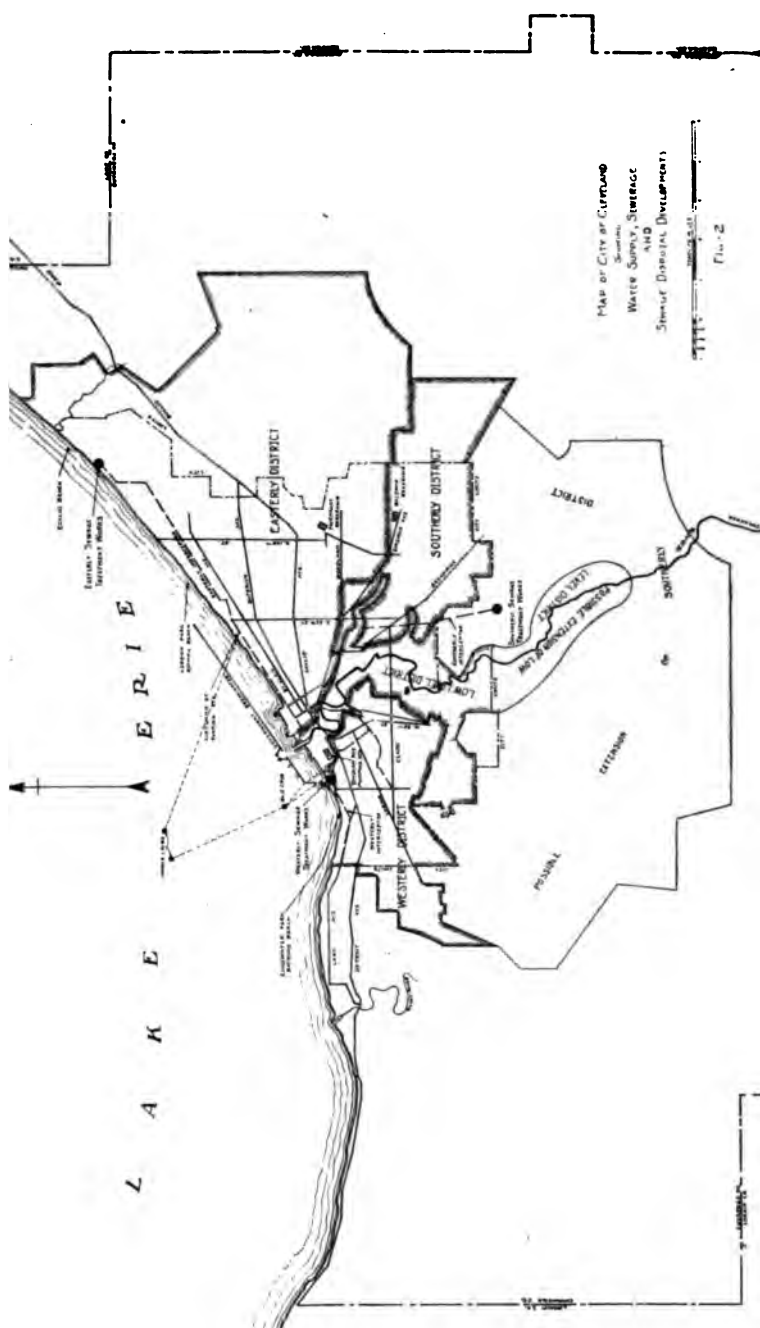
The city, as may be seen from the accompanying map, has been divided into four main sewerage districts: the Westerly, Easterly, Southerly and Low Level. Each district, with the exception of the Low Level, has a main intercepting sewer to deliver sewage to the treatment site, and the population served in each district amounts to, approximately, 27 per cent, 50 per cent, 22 per cent and 1 per cent of the total population of the city, respectively. The sewage of the Westerly and Easterly districts will be treated at two lake-front plants, while the sewage from the remainder of the city will be treated at a plant located on the Cuyahoga River, about seven miles from its mouth. Since lake water is not available at this site, it appears that ultimately structures which provide a higher degree of treatment than at the lake-front sites will be necessary at this site. Since contemplated river and harbor improvements along the Cuyahoga River involve an extensive plan for straightening the river channel, the problem of sewage disposal for the Low Level district which bounds the river is rendered especially uncertain at this time.

The primary results to be accomplished by sewage treatment works may be listed as follows:

Preventing the pollution of bathing beach waters along the lake front.

Eliminating the foul condition of the Cuyahoga River.

At the Westerly site there has been constructed a submerged outfall, and a complete sewage treatment plant is now under construction. It is expected that this will be completed and in continuous operation by the bathing season of 1921. At the Easterly site, shore protection works, outfall pipes



and a building for the housing of disinfection equipment have been constructed. There is now under construction at this site a sewage plant for partial treatment which is expected to be completed and ready for operation by the bathing season of 1921. At the Southerly site the river has been straightened and a portion of the excavation has been made for the sewage plant.

When the two lake front plants are completed they will provide for removing the inorganic matter of sewage by sedimentation in grit chambers, and the removal of settleable organic matter by settling in two-story tanks. During the bathing season the tank-treated sewage is to be chlorinated and dispersed in wide areas about one-half mile off shore by means of submerged outfalls. Should it be possible to proceed at this time with a plant at the up-river or Southerly site it would probably provide, in addition to the tank treatment mentioned above, oxidation of the sewage in sprinkling filters. However, the final selection of the type of plant to be constructed at this site will be deferred until funds are available. Thus it is seen that definite and substantial progress is being made to prevent the sewage pollution of the bathing beach waters.

#### FINANCIAL ASPECT OF PROBLEM

The Water Department of the city of Cleveland is able to charge rates which are consistent with the cost of supplying a purified water to all parts of the city. This applies not only to providing funds for operating the water works in an efficient and economical manner, but also for retiring bonds incident to new construction work. The cost of constructing and operating filtration plants necessarily increases the cost to the city of supplying water. In addition to this increase the cost of labor and supplies have also advanced. To take care of the additional cost, the water rates were recently increased 50 per cent, so that domestic consumers within the city are now charged 60 cents per thousand cubic feet. This charge is reasonable and is in line with that found in other large cities of this country.

The problem of additional funds for sewage and sewage disposal works may be classified under two headings: namely, funds for construction work and funds for the operation and maintenance of the various sewage plants.

Funds for constructing the sewage disposal plants were provided by bond issues and their authorization was approved by a vote of the people. Since such bonds were provided in compliance with orders from the State Department of Health they were issued in addition to the usual limits governing the bonded indebtedness of the city. When an increase in the tax levy beyond the prescribed limits sufficient to provide for the sinking fund and interest charges upon sewage disposal bonds becomes necessary, it requires a vote of the people.

There had been expended by January 1, 1920, upon the sewage disposal project about \$2,650,000 and there was available at that time \$1,330,000 additional. The cost of completing the two lake front plants is estimated at \$1,260,000, which means that available funds will be practically depleted when the two lake front plants are in operation.

order to complete the Southerly Interceptor Sewer, with connections, the Southerly treatment works, additional funds to the extent of practically \$2,000,000 must be provided.

The statutes of the state of Ohio do not permit levying taxes outside the limits, for the operation and maintenance of sewage disposal improvements. The time is rapidly approaching when the question of increasing present tax levy to provide operation funds for this purpose must receive consideration and be settled.

The problem of providing funds for any sewers is difficult, yet it should be appreciated that the city must keep pace with the demand. This demand is great enough to require, during the next 15 years, an annual expenditure of the city of approximately \$1,000,000. The real problem confronting the city is regards sewerage facilities pertains to the method which shall be used in financing such improvements.

The result of failure to supply sewers and keep pace with the settlement and building projects in the outlying parts of the city can be seen, especially in its typical expression in the Collinwood region, where the kitchen and overflow from numerous shallow cesspools and privy vaults is dumped in open gutters behind rows of houses across sidewalks and through drainage channels, until the foul-smelling stream seeps away if the ground soaks it or reaches Nottingham Creek if the clay soil cannot absorb it. Nothing can so successfully discourage attempts by the householder and the city police to maintain decent surroundings for the little children of the regions as the absence of sewers while the public water supply is everywhere available. A sewer is about as essential as a trolley line to develop and distribute families away from the packed tenements of the city.

The particularly foul spot was found adjacent to the city filtration plant: namely, at Bentley Court, where a small area inhabited fairly densely by a mass of small means is entirely unsewered. Here the slops and privy overflow and leakage from a row of houses has made a small swamp out of what serves as a roadway, where domestic animals and children find entertainment, and where the passerby holds his nose for the stench. It takes a high grade of intelligence, constant industry and real discipline to live at close quarters and not create nuisances, where sewers are lacking and water supply is provided.

#### SUMMARY

The problem of safeguarding the health of any community by supplying clean water and by removing the sewage pollution from bathing beaches warrants considerable attention by the public. This is especially true in a large and growing community. During the past few years these problems have been studied actively and conscientiously in Cleveland, with the result that comprehensive plans for providing suitable water supply,



sewerage and sewage disposal facilities have been adopted and are being carried out with substantial progress to date.\* The situation may be summarized as follows:

1. While the domestic supply of water in the City of Cleveland and vicinity can not be considered entirely satisfactory, physically and hygienically, without treatment, excellent progress has been made to furnish a pure water supply by means of intakes suitably located off-shore and by adequate filtration and chlorination.

2. Progress is being made in providing sewerage facilities. However, the demand for sewers is extraordinary at this time, and this demand, because of the rapid expansion of the city, will continue during the immediate future. In order to meet this demand expenditures of large sums must be made for sewers.

3. The bathing beach waters along the lake front are subjected to continuous pollution from sewage discharged at the outfalls, and to occasional pollution from diluted sewage discharged from storm water overflow outlets.

The foul condition of the Cuyahoga River has long been a source of complaint. While correcting this condition may be considered partly a sentimental or comfort problem, sight should not be lost of the fact that this stream with its polluting materials is a direct menace to the water supply.

4. An investment of approximately \$4,000,000 for sewage treatment devices will be rendered practically worthless unless funds are provided to operate and maintain such works in an efficient manner. The question of providing such funds should be given serious consideration in the immediate future.

### RECOMMENDATIONS

It is recommended that:

The City persevere with its present excellent plan for sewage collection treatment and disposal.

For sewer extensions the sum of \$1,000,000 be provided annually for the next fifteen years, to permit of a wise and consistent development of the present plan and to permit of economies in construction.

Cooperation be arranged for between the Park Department, the Public Service Department and the Division of Health to assure protection of the public against risk of infection from bathing at the public beaches in or near the city when there has been direct or emergency overflow contamination near the beaches, due to heavy rainfall in summer.

Funds be provided to operate and maintain the sewage treatment works in the manner intended at the time of construction.

\* For those who wish to test the standards Cleveland has set for itself in its present plans for proper collection and disposal of sewage, an excellent summary of standards methods and authoritative reference to the best present-day American practice can be found in the special article on this subject by Hommon, Hoskins, Streeter, Tarbett and Wagenhals in the U. S. Public Health Report (January 16, 1920, Vol. 35, No. 3).

## Street Cleaning and the Collection and Disposal of Garbage and Refuse\*

ONE of the most important municipal problems in any city is the cleaning of streets and the collection and disposal of garbage and other refuse.

The streets may be efficiently lighted, well paved and sewered, but from health standpoint how much more essential is it that they be well cleaned. Houses are constructed with all modern improvements, including provision for ventilation, with sewer connections, etc., but it is essential for the occupants that the refuse be speedily and systematically removed.

We hear much at present in regard to parks and playgrounds for congested districts, in order to secure for the people who live and work in these districts better hygienic conditions. Dr. Peterson, former supervisor of playgrounds of Cleveland, estimated that the supervised playgrounds in Cleveland would accommodate 20,000 children; more than 105,000, he said, will have to play in the streets. In discussing parks and playgrounds how little we hear of keeping the streets, alleys, yards, courts and premises in a clean condition, to secure cleanliness of the streets for the people who live in the congested sections, to protect the air they breathe, the houses they live in, the shops they work in, their recreation grounds. Undoubtedly a large number of people spend their lives from beginning to end in an area, the healthfulness of which is controlled for good or bad, according to the method adopted for cleanliness.

The work in connection with the cleanliness of the city, consisting in the cleaning of streets and the collection and disposal of refuse and garbage, is under the direction of the Director of Public Service, carried on by branches of the Service Department.

### GARBAGE COLLECTION AND DISPOSAL

Prior to 1897 there was no systematic method for collection and disposal of garbage—the garbage being collected by contractors, who made collections from all portions of the city and disposed of the material by taking it several miles out into the lake and there dumping it. The method of disposal was not satisfactory on account of the excessive cost and the littering of the shores with floating debris. During the period previous to 1897 a portion of the garbage was disposed of by feeding to swine on farms in the outlying districts. This method was not satisfactory and was finally condemned by the local health authorities.

In 1897 a contract was awarded for collection and disposal for a period of five years, the contract being sublet to the Newburgh Reduction Company, with a plant located at Willow, on the Baltimore & Ohio Railroad

\*This chapter was prepared from a report written for the Survey by Mr. I. S. Osborn, an engineer of Cleveland recently engaged by the city government to make an exhaustive study of the problem of municipal collection and disposal of wastes. The Survey is privileged to present this statement before the completion of the official report.

just south of Cleveland. At the expiration of the contract it was not renewed but the contractor continued to perform the work until January 1, 1905, at the same price specified in the contract, \$69,400 per year.

On January 1, 1905, the entire equipment for collection and disposal of garbage was purchased by the city and since then has been operated by the municipality.

The methods of collection have remained, with few changes, the same as when the work was taken over by the municipality. The original horse-drawn wagons purchased by the city from the contractor had a removable box, which was removed from the wagon when filled and shipped to the disposal works, with an empty box returned and placed on the wagon for use in the next collection.

In 1907, two years after the purchase of the equipment by the city, changes and improvements were made by the purchase of new collection wagons and new steel garbage cars, as made necessary by improvements in the methods of handling the garbage at the disposal works.

At present the garbage is collected from the various sections of the city in steel-body wagons, in which it is delivered to the central receiving stations where it is dumped into steel cars and shipped to the reduction works at Willow.

The collection and disposal of garbage are supervised by two superintendents, one having charge of collection and the other of the final disposal. The superintendent of collection has general charge of the equipment and work of the collection department. Under him are employed 250 men, engaged in the work of collection and maintenance of equipment and stables. The superintendent of disposal is in charge of the reduction works. Under him are employed approximately 100 men, including foremen, mechanics, operators and laborers.

Garbage is collected from all sections of the city, which has an area of 58.7 square miles, and a population of 796,836. The total area of the city is divided into 101 collection districts. The areas of the districts vary from a quarter square mile to one square mile or more, depending on the density

of population and quantity of material to be collected. It is the intention in establishing collection districts to limit the size so as to permit the making of regular collections on schedule.

The collection equipment consists of the collecting wagons, horses, trucks and trailers, receiving stations, stables, railroad cars and miscellaneous minor equipment. The receiving station and stables are located near the geographical center of the city on Canal Road. The site comprises approximately one-third acre, on which the buildings are conveniently located as to railroad facilities on the Baltimore and Ohio Railroad, for shipment of garbage to the disposal plant. The property on which the buildings and loading platform are located, is leased for a short term, so that extensive improvements would not be warranted. The location is objectionable from the



*A winter's collection of garbage and rubbish under the kitchen window.*



*Even the cat became used to it. This garbage has waited under the dining-room window for half the winter—for the collector*



*This collection of old food was the winter's decoration of a prominent corner in Cleveland's congested district*



*Just at the back door. Barrel nearly buried by pile of food and rubbish.*

standpoint of approach, due to the fact that it must be reached by steep grades by wagons arriving from all sections of the city, causing considerable trouble, especially in slippery weather.

Most of the buildings are the same as formerly used by the contractor. The buildings are of frame construction and in a rather dilapidated condition. The stable is of wooden construction, and in a poor state of repair. The size is not sufficient to accommodate the required number of horses, with a resulting crowding. The stables are poorly ventilated and lighted. One other stable is rented for service in the western part of the city.

The wagons are constructed with strong running gears, holding the steel tank body, having a capacity of  $2\frac{1}{2}$  cubic yards. The tank body is hinged to the rear axles and by means of a hoist the front end is elevated, discharging the material at the rear. The body is strengthened by arched ribs across the top, which supports a sectional canvas cover. In addition to the wagons, a number of trucks and trailers are used. The trailers are equipped so as to be drawn by either horses or tractors. The cars, sixteen in number, used for transportation of the garbage, are constructed entirely of steel and consist of a semi-cylindrical body supported upon trunnions. The cars have a capacity of 54 cubic yards or 35 to 40 tons.

The ordinances of the city require the provision by householders of suitable water-tight covered receptacles for garbage to be placed in accessible location for collectors. These ordinances are not enforced, especially among the poorer classes and in districts having foreign population, and in many cases boxes, buckets, baskets, etc., are used, which are not suitable receptacles.

The Municipal Reduction Plant situated at Willow is about two miles south of the southerly corporation limits and nine miles from the garbage loading station. It occupies a tract of land 50 acres in area and is situated in the Cuyahoga River Valley.

The buildings, comprising the present plant, consist of the Green Garbage Building, where the material is unloaded from the cars; the Main Building, which contains the digesters and dryers, to which is connected the building containing the grease-separating tanks and evaporators; the Percolating Building, containing the grease-extracting and separating machinery; and the Power House, containing boiler equipment and electric generating plant. The plant, as originally purchased from the contractor, was installed in 1898 and consisted of buildings of wood construction. The present buildings are constructed of brick and steel.

The plant, as remodeled by the city, was increased in capacity at the same time that improved equipment was installed for making recoveries of by-products. The old method of unloading the garbage from tanks by cranes was abandoned, and is now replaced by the Green Garbage Building, where the garbage from the cars is emptied by direct dumping. The cars enter the building on an elevated track and are dumped by means of chain hoists. The car bodies rotate on roller bearings, and the garbage is dis-

charged on the concrete floor underneath the tracks. The garbage in the unloading building is shoveled upon scraper conveyors and discharged through chutes into the digesters, of which there are 33.

After digestion for a period of six hours, by using 70 to 80 pounds of steam, the steam pressure is applied at the top and the free liquor driven off through drains at the bottom to the settling basins, where the grease rises to the top and is skimmed off. The liquor from the bottom of the settling tanks is pumped to an evaporator for recovery of the solids in solution.

The tankage in the digester is removed through a side outlet and discharged into a conveyor leading to the driers. The driers are of two types, known as the rotary direct-heat drier, through which the material is passed, eliminating approximately half of the moisture contained in the tankage. It is then passed through a combination steam and air drier to remove the remaining moisture. After drying, the dried material is conveyed to the extractor building, where it is placed in percolators and the grease remaining is recovered by percolation, using gasoline as a solvent. The combined grease and gasoline are then pumped to stills where the solvent is evaporated, leaving the grease ready for storage. The gasoline, driven off from the stills, is condensed and returned to storage for further use. The tankage, after percolation, is returned to the driers where the stick or concentrated solids which were in solution coming from the evaporator, are mixed with the fibrous material, dried and then passed through the screening and grinding room before going to storage, awaiting sale of shipment.

It has been shown by figures, based on reports of New York garbage-reduction results, that one ton of garbage yields the following products: from the grease enough glycerine is obtained to furnish high explosives for ten French 75-millimeter shells, and soap stock sufficient to make 125 pounds of laundry soap; from the tankage or fertilizer enough plant food in the form of nitrogen, phosphate and potash is secured to raise ten bushels of wheat.

Many improvements have been made in the plant since it was originally purchased by the city, although very few changes have been made in the methods, or types of equipment used, during the past ten years.

As the city has grown, surrounding the plant, there has been increasing objection raised to the odors given off by the processes which originate from the vents on the digesters and from the gases from the driers. To eliminate the odor, special treatment must be given to the gases carrying odors, which will eliminate the nuisance. Attempts have been made from time to time to deodorize the gases. Plans are under way at present for the condensation of the gases or vapors given off by the digesters. The gases, which are of large volume, coming from the driers, are passed through a scrubber which consists of a horizontal brick chamber, where they are subjected to water sprays which wash and condense them. The efficiency of the scrubber is not sufficient to eliminate entirely the sweetish or caramel odor carried by these gases. It is realized by the city that steps are necessary to improve

the present conditions at the plant, both from the standpoint of capacity and for the elimination of undesirable features and odors. The problem is under study at present.

The collection and disposal of dead animals were formerly handled by the city, but at present are done by private rendering companies, who remove and dispose of the large animals dying within the city. The small dead animals are disposed of with the garbage at the Reduction Plant. About 500 dead dogs are collected each month.

The following table gives the quantity of garbage collected and disposed of during the past ten years; also the cost of collection, cost of disposal, receipts from sale of by-products and the net cost for collection and disposal.

TABLE GIVING TONS OF GARBAGE HANDLED, COST OF COLLECTION, COST OF DISPOSAL, RECEIPTS FROM BY-PRODUCTS AND NET COST PER TON FOR COLLECTION AND DISPOSAL

Year	Tons Garbage	Cost Collection	Cost Disposal	Gross Income	Net Cost Collection, Disposal	Net Cost Per Ton
1910	44,747	\$124,701	\$101,936	\$190,652.00	\$ 35,985	\$0.804
1911	46,562	139,456	110,094	189,894.00	59,656	1.281
1912	43,550	139,379	107,015	151,162.00	95,232	2.187
1913	52,354	143,672	113,057	157,705.00	99,024	1.891
1914	55,730	165,858	141,415	195,221.00	112,052	2.011
1915	62,357	181,556	151,503	224,691.00	108,368	1.738
1916	60,717	195,266	155,584	304,072.00	46,778	0.77
1917	56,121	236,035	191,001	292,745.00	134,291	2.393
1918	57,754	304,183	265,243	437,842.00	131,584	2.278
1919	60,932	355,175	238,202	296,361.00	297,016	4.874

#### ASHES AND RUBBISH

Previous to 1906 ashes and rubbish were collected entirely by private scavengers, who were not licensed and only in a general way under the supervision of the Division of Health. The collections were not regular, the city was incompletely covered and the service very inefficient. The material was disposed of by dumping on vacant lots, side streets and roadways, or in such places as it could be disposed of without causing immediate complaint. In 1906 the city undertook the collection of ashes and rubbish, in order to eliminate the nuisance caused by the littering of streets and alleys, also in order that the places of disposal could be controlled and more satisfactory results obtained.

The work, in connection with the collection and disposal of rubbish and ashes, is under the direction of the Commissioner of Streets, whose superintendents and assistants have charge of the work. The work of collection is carried on by the same organization that performs such work as is done in cleaning the streets, and men and teams used in collection are also employed at times in street cleaning.

For convenience the city is divided into six districts with a district superintendent in charge of collection service as well as street cleaning. Collec-



tion of ashes and rubbish is provided over the entire city. The frequency of collection varies and work is not regularly scheduled. In some sections there is a collection once in six weeks, in other sections more frequently. Collections are made by wagons or trucks. Additional trucks have been purchased for this service. The wagons are of the bottom dump type, having a capacity of four cubic yards.

Rules and regulations have been adopted by the Department to facilitate the work, which require householders to provide suitable receptacles and the tying of loose refuse into bundles. The rules have been difficult to enforce and in many cases are not complied with.

In order to eliminate the dumping of waste paper and at the same time to realize upon its commercial value, the Department collects waste paper separately. This is baled and sold. This applies to street boxes and some of the larger producers of waste paper, but as a rule, the waste paper from residences is collected at the same time as the ashes, and is disposed of by dumping.

The disposal of rubbish and ashes is made by dumping. The location of the dumps depends upon the land available for this purpose. In many cases dumps are made available by owners desiring their property filled. There are twelve principal dumping grounds now in use.

The lake front, near East 9th Street, is the largest dump. It was first begun by dumping directly into the lake, after which a breakwater was constructed. There have been made over one hundred acres of land from dumped material at this point. The principal filling has been with ashes, street cleaning dirt and material from cellar excavations.

At all the dumps the method is practically the same. The material is dropped from the wagons or trucks at the edge of the slope and then shoveled over the edge by hand. Considerable complaint is made of nuisance caused by the scattering of material, and the odors and smoke from fires in many of the dumps. These have generally been justified and their abatement is the duty of the Sanitary Bureau.

The following table gives the quantity of ashes and rubbish as collected during the past five years, together with the cost for labor and teams for the service, as reported by the Division of Streets:

Year	Cubic Yards Collected	Cost	Cost Per Cubic Yard
1915	318,390	\$181,296.13	\$0.57
1916	356,336	209,920.85	0.59
1917	335,769	227,249.03	0.677
1918	477,967	277,650.03	0.58
1919	495,834	284,286.26	0.5734

The above cost includes only expenditures for teams and labor, and not any fixed charges, maintenance, overhead or allowance for use of trucks owned by the city.

The Director of Public Service is now having a complete study and survey made in order to determine what steps should be taken to remedy and improve the conditions of collection and disposal of garbage, ashes and rubbish. This survey and study considers what steps can be taken to improve collection service and at the same time reduce the cost for long hauls and the present expensive methods of handling.

The investigation and report will cover the various methods necessary for collection, delivery and disposal of ashes, rubbish and garbage, including substantially the following subjects:

1. Analysis of data contained in the records of the Department of Public Service with reference to collection of garbage, ashes and rubbish.
2. Study of population and future growth of the city to provide for a comprehensive plan for future needs.
3. Comparison of various methods of collection and types of equipment suitable to systematize that service for the City of Cleveland.
4. Comparison of various methods of disposal for different classes of waste, adaptable to Cleveland's needs.
5. Outline of essential features necessary to produce a sanitary and economical collection and disposal of garbage, ashes and rubbish by various methods.
6. Quantities and plant capacities with proper allowance for future growth and local conditions.
7. The advisability of collection and disposal of waste in a central plant as compared with a number of plants.
8. Determination of and advisability of a number of transfer stations and methods of transfer and delivery of material to points of disposal.
9. Comparison of costs by various methods of collection and disposal, giving capital cost, annual operating and maintenance charges, also the total plant charges and revenues.
10. Recommendations. A discussion of the various projects adaptable to Cleveland, with recommendations covering the most feasible plan for the collection and disposal of waste from a sanitary and economical standpoint.

The complete study, as outlined above, will take into account all practicable plans that might be adopted, each developed so that the most feasible plan can be recommended, taking into account the sanitary and economical advantages to be gained to take care not only of present conditions but the future needs of the city.



*A "Front Door" on a Cleveland Alley.  
The pile is made up of mixed garbage and rubbish.*



*Stable refuse on an alley in Cleveland's most congested quarter. In the Spring a natural breeding place for millions of flies.*



*Food and rubbish. The winter collection of a Cleveland backyard.*



*Next door to a grocery store in Cleveland's congested district.*

## STREET CLEANING

The work of cleaning the streets is under the direction of the Street Commissioner and directly under one of the deputy commissioners. The work is carried on by district gangs, who are in charge of the collection and disposal of ashes and rubbish. Men and teams interchange for each class of work.

The city is divided into six districts for refuse collection, with a foreman in charge of each district. The city is divided into three districts for street cleaning, by a "white wing" patrol, with a foreman of "white wings."

The catch basin cleaning under the direction of a foreman, includes the whole city, except for parks and boulevards, which are under another department.

There is also a foreman in charge of equipment, including wagons, trucks and automobiles. In addition, there is the office force and a corps of inspectors and investigators of complaints. To each foreman is assigned such assistants, subforemen, laborers and teams as required.

There are 609 miles of paved streets in the city, and the methods of cleaning consist principally of "white wing" patrol, pickups and flushing. The cleaning of streets in the downtown section and the streets at more important intersections is done principally by "white wings."

The patrol districts are not established, and the number of "white wings" employed varies with the funds available for cleaning work, with the result that the thoroughness of cleaning varies. No record is kept of the areas cleaned daily or left uncleaned, and the records are made up by assuming that each "white wing" has cleaned his allotted area at least once a day, irrespective of the work actually accomplished. The work is reported for "great squares," which contain 10,000 square feet each.

The following table gives the work of the "white wing" patrol and the cost of it for the past five years, as given in reports of the Division of Streets.

Year	Squares Cleaned	Total Cost	Average Cost Per Square
1915	438,606	\$119,421.15	\$. 2723
1916	448,387	104,327.78	0.2326
1917	300,083	135,389.83	0.4512
1918	312,094	105,358.34	0.3375
1919	313,497	139,055.72	0.4435

The above cost covers only labor and teaming, and does not include any fixed charges, maintenance or overhead.

The method of pickups, in addition to flushing, is used on streets not included in the "white wing" areas. The men and equipment used in ash and rubbish collection are used largely in pickup work, which consists prin-

by in cleaning gutters and picking up the accumulation of dirt on the streets. This method is used largely in outlying and residential streets.

The following table gives the work by the pickup method as reported for the past five years, including the labor and teaming cost for the work.

Year	Squares Cleaned	Cost	Per Square Average
1915	93,993	\$69,544.78	\$0.74
1916	112,091	75,073.04	0.67
1917	75,342	78,497.82	1.04
1918	84,653	69,563.54	0.82
1919	85,624	75,967.96	0.89

One of the principal methods of cleaning is by flushing the streets, which is employed occasionally in the warm months of the year, on the main thoroughfares. The city has two motor driven flushers employed in this work and eleven street car flushers, rented from the street railway company.

The motor driven flushers are used in the city as a whole, and assigned to work as needed. The street car flushers, when used, are operated on streets having trackage.

In addition to the cleaning done by "white wing" patrols, the most effective is done by flushing, although this is not extended so as to cover territory outside the main thoroughfares.

The following table gives the work and costs for flushing during the past five years.

Year	Squares Flushed	Cost	Average Cost Per Square
1915	329,319	\$36,351.93	\$0.11
1916	310,384	34,971.99	0.113
1917	163,168	20,250.47	0.124
1918	247,306	13,966.63	0.056
1919	336,340	18,165.68	0.054

During 1919 there was reported flushed by street car flushers 251,097 squares at a cost of \$12,676.25, or an average cost of \$0.0505 per square; by motor flushers 85,243 at a cost of \$5,489.43, or an average of \$0.0644 per square.

The above costs include the rental paid the Street Railway Company but do not include any fixed charges, maintenance, overhead or cost for water, and, if added to the total, would increase considerably the cost for motor flushers.

The following table gives the direct expenses during the year 1919 for fuel and team hire in the Street Cleaning Division, but not including fixed expenses or replacements:

### EXPENDITURES OF THE DIVISION OF STREET CLEANING DURING THE YEAR 1919

Household refuse collection.....	\$284,286.26
White wing patrol.....	139,055.72
Pickup gangs.....	75,967.96
Supervision and inspection.....	58,734.08
Catch basin cleaning.....	39,994.38
Maintaining dumps.....	29,486.93
Mechanical repairs.....	27,233.90
Watchman.....	25,695.40
Market cleaning.....	15,786.56
Street car flushing.....	12,676.25
Waste paper.....	10,508.70
Motor flushing.....	5,489.43
Snow removal.....	2,599.99
Cinders.....	799.03
<b>Total.....</b>	<b>\$728,314.59</b>
 Labor payroll.....	 526,650.49
Team payroll.....	192,998.85
Rent of car flushers.....	8,665.25
	<b>\$728,314.59</b>

The insignificant sum charged to cost of snow removal in 1919 may be the explanation, it cannot be offered as the excuse for the intolerable filth and neglect of the streets during the winter of 1919-20.

#### GENERAL

The studies, now being made for the Director of Public Service, of the the city services for street cleaning and the collection of ashes, rubbish and garbage, will show where improvements can be made.

One of the chief handicaps of the city has been the limited funds available for conducting the work, with continually increasing cost for labor and equipment.

If systematic and efficient work is to be carried on, the following requisites are necessary for success:

1. A sufficient appropriation.
2. An efficient organization.
3. Sanitary and economical methods of work.
4. Cooperation on the part of the public.

Appropriation is necessary to cover the cost of the work to be done, and the quantity of work accomplished will depend on the fund available, pro-

iding it is efficiently used. An efficient organization will develop effective and economical methods of work. Sanitary and economical methods of work will be obtained from study and application of studies, after comparison of records and unit costs of the work by various methods.

The cooperation of the public can be obtained by education and regulations consistently and uniformly enforced. Results will be more readily obtained when efficient and satisfactory service has been rendered. All four requisites are dependent on each other to obtain the maximum degree of success.

From the investigation made it is evident that very little intensive study as ever been given the street cleaning work in the city.

A comparison of the work done in Cleveland with that of other cities will show that less work is given here to effective street cleaning than in the other cities of comparable size; at the same time, the annual expenditure for the work is less than in other cities. The result is that many streets are seldom cleaned thoroughly, and many receive only such work as is given by the pickup method in cleaning gutters a very few times per year, a wholly inadequate service.

From the studies made it has developed that the records of the Street Cleaning Department are not complete as to the actual work performed, and unit costs for conducting the different parts of the work have never been developed. These are essential to permit the official in charge to obtain the information necessary for the proper work control and administration.

The Director of Public Service is now planning for necessary changes in organization to provide assistants in the Street Cleaning Department. There will be systematic planning of work and a system for record and unit cost keeping of the several activities of the Department. These, when installed, should greatly assist in the direction of the Department.

In one city, where studies were made, it was found that out of an annual expenditure of \$350,000 at least one-third of the amount was wasted, due to inefficient work and inefficient methods.

The city of Washington, by adoption of methods in planning and establishment of complete record and unit cost keeping, was able to reduce the cost of street cleaning 30 per cent, and at the same time to do more effective work. Washington, during the summer months, washes each street on an average of once for each two and a half days. New York City has established methods and standardized the street cleaning work so that every important or congested thoroughfare is cleaned by flushing, by squeegee machine, or by sprinkling and sweeping, at least once in every 24 hours.

With the shortage of funds for municipal work in Cleveland the establishment of the methods proposed should assist the officials in charge to accomplish the greatest amount of work with the funds available.

It is recommended that:

The steps being taken by the city in having studies made to determine improvements



necessary for the collection and disposal of garbage, ashes and rubbish be approved. They should permit the adoption of improved methods equal to those found in any city.

Special attention be given in studies now being made to eliminate so far as possible cause for complaint of nuisance, due to odors from dumps or disposal plants, either by more attention to control of dumps or by the adoption of other means for disposal.

It is essential, in order to control properly and carry on efficiently the work of street cleaning to plan, schedule and keep records and unit costs of the work. The step being taken by the Director of Public Service to provide for an assistant to the Commissioner, who will develop, install, and keep records and unit costs of the several activities of the Department will be one of the most progressive steps taken since the organization of the Department. The work done should include studies of the work actually performed, to determine the advantages to be gained by making changes and improvements, and should furnish the Director and Commissioner with detailed information necessary for the work, the control and the management of the Department.

The Collection of ashes and rubbish should be scheduled so that regular and systematic collections are made. Thus residents can plan on the time when collections will be made and have materials in proper condition for the collector. This will permit a better enforcement of regulations and will eliminate complaints.

## Flies and Mosquitoes

**[**HERE is no directory or list of stables and no census of horses or cattle stabled in Cleveland, kept at the Division of Health or otherwise available. There are no regulations enforced dealing with the collection and disposal of animal manure so as to control fly breeding in Cleveland. Manure piles, fresh and of long standing, were found commonly in the residential regions in the poorer quarters of town within common fly range of unscreened food stores and restaurants. Only one of several score of privies inspected on both West and East Sides of the city in the regions supplied or not supplied with sewers, was found to be so constructed as to give any reasonable expectation that flies could be kept away from access to freshly deposited human waste or to the privy vault itself.

Only one privy above noted was found with seat covers, or if seat covers are provided, they were so made and used as to be of no use in excluding flies from the vault. Doors were open or cracked. Windows in privy closets not screened, fecal deposits on the seat, on the floor and overflowing from the pit on the ground without, were frequently found. Uncovered garbage cans and uncollected accumulations of garbage are common even in warm weather.

Under these conditions for which the Sanitary Bureau of the Division of Health must be held responsible, it is unnecessary to go into any detail as to the fly nuisance in Cleveland. "Swat-the-fly" campaigns, or efforts to teach children and householders to kill flies and reduce disease are mere waste of time. Until breeding places of flies, that is, exposed fresh animal excreta are controlled attacks upon the fly upon the wing are vain. Screening is necessary, and except in cheap eating and food stores, which seem to escape inspection, is fairly well accomplished. Control of water and milk and education of mothers are responsible for the low incidence of enteric disease in Cleveland, and not control of the fly.

Neither mosquitoes nor malaria are sufficiently common to require any special attention. Mosquitoes breed more or less according to the character of the breeding season, but do not amount to a serious nuisance within the city limits. Only twelve cases of malaria were reported to the Division of Health in the years 1916-19 inclusive.

### RECOMMENDATIONS

It is recommended that:

The Sanitary Bureau maintain supervision over the horse and cow stables in Cleveland and with such authority as can be found in the Sanitary Code, require the protection and periodic removal of manure so that fly breeding may be reduced or largely prevented.

All privies in Cleveland be so constructed and maintained after well-known methods to prevent access of flies to human excreta.

The holding of garbage in covered tight metal containers and the removal of garbage at least twice a week from April to November be required throughout the city.

An ordinance be passed and enforced forbidding such collections of water as are likely to permit the breeding of mosquitoes. (For model ordinance see U. S. Public Health Reports, 1920, April 2, page 829.)

## Smoke and Its Prevention

NE might honestly report after a careful survey of the city and its public and private agencies, that nothing of a practical nature is being done or even attempted in the field of smoke prevention. Cleveland enjoys amazingly, and one would be tempted to say, an intolerably polluted air the year round. The reason is not that such air pollution as Cleveland hates cannot be abated, or that similar disgraceful interference with health and the enjoyment of life has not been controlled elsewhere.

"There is nothing impossible or wonderful about the smokeless combustion of even Pittsburgh coal, provided the proper methods are applied and the ordinary precautions taken."

Such was the opinion expressed by the competent group of engineers responsible for Bulletin 8 of the Smoke Investigation of Pittsburgh in 1914.

Another statement in the same publication is so directly applicable to Cleveland that it will bear quoting:

"A small group of men control the plants which produce 80% of the smoke of the district. The solution of Pittsburgh's smoke problem lies in inducing these men to apply the best modern engineering practice to the combustion of fuel in their plants."

If the Chamber of Commerce of Cleveland could convince the manufacturing and commercial interests of the city that their indifference to the nuisance is responsible for a very large amount of sickness in the city and that the antiquated equipment and careless administration of the plants which cause this nuisance, cause them and the city each year a loss of several times the amount of the total annual Community Fund, a modest estimate about \$20,000,000, action, civic and individual, would probably follow with gratifying rapidity.

It needs no visiting surveyor to tell the people of Cleveland what their eyes, sight, touch, smell and taste must convince them of daily, that their city is unfit for human consumption just as their sewage-polluted river was a few years ago.

Since no quantitative observations of air pollution in Cleveland could be secured, a brief series of soot-fall studies was made during July and August, months of the year when the degree of air pollution from soot is probably at its lowest. As compared with certain English cities and with Pittsburgh (Bulletin 8, Smoke Investigation, page 22) probably Cleveland's nearest rival or competitor in smoke production, in this country, Cleveland now emits a few tons per square mile per annum less of combustion products than did the other cities (London and Pittsburgh) when they were at the height of their nuisance. In recent years both the English cities and Pittsburgh have made improvements in this direction. Cleveland is supine in the face of increasing air pollution.

The following statement represents reports received from the firm of consulting engineers (The James H. Herron Co.) engaged to make soot-fall studies for the Survey.

#### PURPOSE OF EXAMINATION

The purpose of the examination was to determine the amount of matter present in the atmosphere in samples taken from a number of stations throughout the city of Cleveland, also to get data which, if possible, may be compared with the work done in other communities on this same subject.

#### EXTENT OF EXAMINATION

Observations were made at four stations situated as follows:

1. The roof of the Superior Peanut Co. building, situated adjacent to the Huron Road Hospital. This place was chosen owing to the fact that a roof position on the hospital was not available.
2. The roof of St. Alexis Hospital, Broadway and McBride Avenue.
3. The roof of the Babies' Dispensary, 2500 East 35th Street.
4. The roof of Mt. Sinai Hospital, 1800 East 105th Street.

It was decided that the samples collected from these locations would be sufficiently representative for general comparative purposes.

#### APPARATUS USED

The apparatus used was composed of a gauge of four square feet in area and was similar to the standard gauge used in the investigation of atmospheric pollution in the city of London in the years of 1914 and 1915. This gauge was deemed most satisfactory for this purpose.

#### THE ANALYSES

The deposit was collected at the end of each month and the analyses as reported made at the end of each of the two months, June 26 to July 26 and July 26 to August 26. The deposit was analyzed for tar, ash, fixed carbon and iron oxide. This followed the order in which the analyses were made in connection with the smoke investigation of the city of Pittsburgh, the result of which was published in Bulletin No. 8 of Smoke Investigation. The results given in this analysis are comparable with the results obtained in Pittsburgh.

## OBSERVATIONS, JUNE 26 TO JULY 26, 1920

At Huron Road Hospital	At Babies' Dispensary and Hospital	At St. Alexis Hospital	At Mt. Sina Hospital
<i>Soot Fall per Square Foot per Month</i>			
1.4940 Grams	1.5530 Grams	1.6514 Grams	.9436 Grams

*Per Cent Composition of Deposit*

Tar.....	2.82	2.29	.55	2.86
Fixed Carbon.....	32.65	31.26	34.19	31.80
Ash.....	64.55	66.45	65.26	65.34
Fe <sub>2</sub> O <sub>3</sub> in Deposit.....	6.67	11.04	10.82	15.75

*Deposit in Tons Per Square Mile Per Year*

Total Deposit.....	550.94	592.70	608.98	347.97
Tar.....	13.55	13.58	3.34	9.95
Fixed Carbon.....	178.59	185.40	208.24	110.66
Ash.....	355.80	393.72	397.40	227.36
Fe <sub>2</sub> O <sub>3</sub> in Deposit.....	36.75	65.45	65.70	64.80

## OBSERVATIONS, JULY 26 TO AUGUST 26, 1920

At Huron Road Hospital	At Babies' Dispensary and Hospital	At St. Alexis Hospital	At Mt. Sina Hospital
<i>Soot Fall per Square Foot per Month</i>			
3.7775 Grams	2.7259 Grams	1.9995 Grams	.8421 Grams

*Per Cent Composition of Deposit (July 26 to August 26 1920)*

Tar.....	3.33	3.61	3.76	4.43
Fixed Carbon.....	28.94	32.15	33.33	32.40
Ash.....	67.73	64.24	62.91	63.17
Fe <sub>2</sub> O <sub>3</sub> in Deposit.....	23.00	17.90	13.38	16.58

*Deposit in Tons per Square Mile per Year*

Total Deposit.....	1392.91	1005.15	737.31	310.52
Tar.....	46.39	36.32	27.66	13.75
Fixed Carbon.....	403.11	323.15	245.74	100.61
Ash.....	943.41	645.68	463.91	196.16
Fe <sub>2</sub> O <sub>3</sub> in Deposit.....	320.37	179.92	98.65	51.48

*Average Deposit in Tons per Square Mile per Year Calculated on Observations  
June 26 to August 26, 1920*

Total Deposit.....	971.73	798.93	673.15	329.50
Tar.....	29.97	24.95	27.50	11.85
Fixed Carbon.....	290.85	254.28	226.99	105.63
Ash.....	649.61	519.70	430.65	211.76
Fe <sub>2</sub> O <sub>3</sub> in Deposit.....	178.56	122.58	82.18	58.14

At times in the past in both Pittsburgh, Pennsylvania and London, England, deposits of more than 1,000 tons per square mile per year have been recorded for periods of a month or more. For details of relative proportions of the solid components of the deposits in Cleveland and in other cities here and abroad the reader is referred to original documents.

There is a not inconsiderable volume of air pollution due to volatile substances, the sulphurous acid and other fumes commonly found accompanying heavy soot fall, but precise information as to the extent of such harmful substances must await studies of greater extent than the Survey could undertake in the time and with the money at its disposal.

Admitting, if only for the sake of argument, that Cleveland suffers from an extreme case of dirty air, and certainly the valuable reports of the Cleveland Chamber of Commerce in recent years should leave one in no doubt as to the extent of financial loss to persons and property justly attributable to this public nuisance, it may reasonably be asked what is the interest of the Hospital and Health Survey in air pollution.

Briefly, diseases of the upper respiratory tract are increased by the irritation of coal dust in the air, and pneumonia is to some degree increased in frequency and severity by pollution of the air with coal dust. Diminution of sunlight reduces the bactericidal action of this most sanitary free agent. A diminution of sunshine which is familiar to every Clevelander for all the cool and winter months of the year, can be shown to permit an increase of bacteria, both pathogenic and harmless, in the air. "When the air is dirty it is hard to get the streets, the yards, the clothes, the people clean," and certainly bodily, personal and home cleanliness are important safeguards to health. The baleful psychical effect of smoky, dark and dirty air on human health and happiness has been emphasized by observers in England and in Pittsburgh.

In an ever wider radius from the main centers of smoke production, plant life, tree life and especially the life of evergreen trees and shrubs is being destroyed. The constant deposit on the ground of coal, tar, ash, cinder and unburned carbon destroys the scant fertility of grass plots in yards and parks in many parts of the city. It must be admitted that where the air contains such pollution as to make life unbearable for vegetation, we must look sharply to protect the lives and health of the human flowers, the children who for large numbers of the population, have no escape from the soot-laden air.

True, there is a Commissioner of Smoke Prevention appointed by the Mayor. He has an office in the City Hall. He receives a salary of \$2,000.00 a year. His preparation and education for this highly technical position has been that of a fireman on a locomotive. He has had no technical training, he has no books or laboratory or instruments of precision, or experience in the practices used elsewhere to measure the extent of smoke nuisance, to prepare strong cases and arguments in court, or to carry on effective education among plant owners, engineers, firemen, etc. One of his functions is to pass upon and issue licenses for plants for heating, power and other coal and oil consuming furnaces, all of which he does as a part of a purely formal

erical routine, without inquiry as to the adequacy of draft or other equipment, such as mechanical stokers, etc., which will render smoke nuisance at least less likely. There are four inspectors also appointed by the Mayor, and not through civil service examination, receiving \$1,375.00 a year and a stenographer at \$900. In the same office at a desk adjacent to that of the Commissioner of Smoke Prevention is an employe of eight of the railroads operating within the city limits. He receives \$3,900.00 a year. His experience was formerly locomotive fireman and later foreman responsible for locomotive equipment on one of the important railway systems. His function is to serve the railroads which pay him, so that observations made by the field inspectors (or by himself) of wasteful smoke nuisance from locomotives may be promptly reported to the company concerned, and the offending fireman may be reprimanded, suspended or dismissed. As a matter of fact, the saving to the railroads in fuel cost, as the result of disciplinary action directed against careless firemen, more than offset the expense of their smoke inspection service. There is probably some benefit to the city from his servant of railroad operating efficiency, but locomotive smoke plays but a small part in the general curtain of dirt which the plant chimneys throw over the city.

Of the four inspectors in city employ, one is assigned to the east, one to the west, one to the downtown section of the city and one is on railroad duty to assist the railroad employe above referred to. Reports of smoke nuisance are based on duration and density as measured by the Ringleman chart. No action follows violation of the city ordinance. The reasons given for failure to prosecute (there have been no prosecutions for many months) are that there is not only no public opinion in support of vigorous action but that there is active opposition to any interference with industry in the interest of clean air, and further that cases are continued in the Municipal Court until all value of action is lost and there is lacking reasonable, judicial support for the objectives of the city officials.

Conditions of smoke nuisance are reported by responsible observers both in and out of the city employ to be much worse than they were under the administration of Mayor Baker, when the Commissioner of Smoke Prevention, a trained civil engineer at a salary of \$4,000.00, and with a force of competent inspectors, made an intelligent and effective attack on the problem. The resentment and opposition of prominent men against whose plants action was taken, resulted in the discontinuance of an efficient service by cutting off the appropriation.

A complication which adds somewhat to the problem of the plant manager and engineer is that under the laws of Ohio a fireman must be licensed to run a fire room, and this operates largely to make him independent of the engineer in charge, so that criticism or complaint of the firing which is always in large measure the fault responsible for smoke nuisance, is withheld for fear of loss of the fireman in question.

At present the returns from the city expenditure (\$8,400.00 annually in salaries) for smoke abatement are negligible.



### **RECOMMENDATIONS**

It is recommended that:

A competent engineer familiar with the technical phases of cause and prevention of smoke nuisance, and with the harmful results to property and life from such other kinds of air pollution from combustion, refining, smelting and other industrial processes as are common in Cleveland, be employed as Commissioner of Smoke Prevention, and be paid a salary commensurate with his responsibility (not less than \$6,000), and that he be provided with a budget which will permit him to employ through civil service competent inspectors (four would be sufficient).

The Chamber of Commerce resume its activities in the public interest by developing among its members an intelligent activity for cleanliness of the air of Cleveland, by aiding and encouraging prosecution of violators, by publishing technical bulletins giving modern standard methods of mechanical stoking and hand firing, by serving its own members through an inspection service which will prevent any of its members from coming under criticism by the city inspectors.

The Cleveland Betterment Council take an active part in obtaining proof of the damage done by air pollution to the health of people of the city, through regional studies of soot fall, etc., and by analysis of the distribution of sickness and death, in cooperation with the Division of Health and the public nursing agencies.



# **THE CLEVELAND HOSPITAL AND HEALTH SURVEY REPORT**

## **List of Parts and Titles**

- I. Introduction.  
General Environment.  
Sanitation.**
- II. Public Health Services.  
Private Health Agencies.**
- III. A Program for Child Health.**
- IV. Tuberculosis.**
- V. Venereal Disease.**
- VI. Mental Diseases and Mental Deficiency.**
- VII. Industrial Medical Service.  
Women and Industry.  
Children and Industry.**
- VIII. Education and Practice in Medicine, Dentistry, Pharmacy.**
- IX. Nursing.**
- X. Hospitals and Dispensaries.**
- XI. Method of Survey.  
Bibliography of Surveys.  
Index.**

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**Public Health Services  
Private Health Agencies**

**PART TWO**

**Cleveland Hospital and  
Health Survey**



**Public Health Services  
Private Health Agencies**

**PART TWO**

**Cleveland Hospital and  
Health Survey**

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**THE CLEVELAND HOSPITAL COUNCIL**  
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## Preface

The Hospital and Health Survey of Cleveland was made at the request of the Cleveland Hospital Council.

The Survey Committee appointed to be directly responsible for the work and through whose hands this report has been received for publication consisted of the following:

MALCOLM L. McBRIDE, *Chairman*;  
MRS. ALFRED A. BREWSTER,  
THOMAS COUGHLIN,  
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SAMUEL H. HALLE,  
OTTO MILLER,  
DR. H. L. ROCKWOOD,  
HOWELL WRIGHT, *Secretary*]

The staff responsible for the work were:

HAVEN EMERSON, M. D., *Director*

and the following collaborators:

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and Maternity Survey*;

T. W. SALMON, M. D., *Director of the Mental Hygiene Survey*;

W. F. SNOW, M. D., *Director of the Venereal Disease Survey*;

LOUIS I. DUBLIN, Ph. D., *Director of the Vital Statistics Survey*.

The expenses of the Survey and of the publication of the report have been met by appropriations received from the Community Chest, through the Welfare Federation, of which the Hospital Council is a member.

The report as a whole, or by sections, can be obtained from the Cleveland Hospital Council. A list of the parts will be found in the back of this volume, together with prices.

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# Health Services

By HAVEN EMERSON, M. D.

## INTRODUCTORY

"Public health is the science and art of preventing disease, prolonging life, and promoting physical health and efficiency through organized community efforts for the sanitation of the environment, the control of community infections, the education of the individual in principles of personal hygiene, the organization of medical and nursing service for the early diagnosis and preventive treatment of disease, and the development of the social machinery which will insure to every individual in the community a standard of living adequate for the maintenance of health."—*C.-E. A. Winslow.*

PUBLIC Health Organization in the majority of the cities of the United States is more a vision than a reality, a hope of a few rather than a living, growing, democratic function of civil government and private endeavor. Cleveland has gone further than any city in the country in the marshaling of its voluntary community resources, both financial and organization for public service. It has created the spirit of universal support for those activities which are indispensable to human progress, and there has been capitalization in Cleveland, as nowhere else, the conception that central direction, control and support are as necessary in private agencies created for prevention and remedy of the evils resulting from social neglect as they are in private business or in the functions of civil government. We have in Cleveland the legal authority, the administrative skeleton for a public health service capable of including all the functions accepted as necessary or desirable in the interest of health conservation, for the detection or arrest of incipient disease, and for education in the principles and practice of health promotion and protection. What we see in action is but a meager structure, starved by scanty appropriations, occasionally hampered by party politics, only partially serving some of the elementary functions, and incapable of undertaking others because of lack of heads and hands to plan and carry out the work.

Supplementing the public health service of the city and serving many of the functions already assumed by the public authorities in many other places here and abroad we find the private agencies working under a community support, receiving support by a voluntary self-taxation of the same people who pay the legal compulsory taxes of the city. Roughly speaking, about as much money is raised for the services included under health promotion to be spent by private agencies annually in Cleveland as is appropriated by the civil government for this group of functions. We have, as it were, a democracy within a democracy, an administrator selected by agents working under unofficial direction, countless human needs, exercising many of the functions of Chief Executive of the city, as well as an elected Mayor.

The Mayor of the city has his directors of departments, his technical advisors, his commissioners.

The Director of the Welfare Federation lacks any adequate permanent specialist in the field of health to advise him as to the relative necessities and probable results in preventive medical efforts of private agencies.

On the part of the city we have a good plan for a machine, but lacking certain essential parts and without the power to produce results.

In the Welfare Federation there is vision, imagination, insight into the needs and sufficient funds to supplement the public service for health, but without a trained officer, a professional student or administrator of health and without a plan for its own future in this field.

In order to make the demonstration of voluntary community organization clear and brilliant Cleveland owes it to itself and to the other great municipalities of the country to assemble within one local public health association all the agencies which in innumerable ways apply the knowledge of modern science to develop health, to prolong life, to prevent disease, to secure in physical and mental happiness all we know normal child and man are capable of.

It is recommended: That there be created a Cleveland Public Health Association, which shall include in its membership members of all medical and social agencies which contribute to public health protection, and the governing board of which shall be composed of officially designated representatives of each component agency or group of agencies.

That there be created in the Welfare Federation the position of Secretary for Health, and that this position be filled by one who has had professional training or experience in public health work, preferably a doctor of public health or a physician, and that the functions of such a secretary be to advise the Director and through him the Board of Directors in all plans, expenditures, policies and undertakings of the Federation in the field of health and preventive medicine, to make studies of the results of public and private efforts in this field, to plan and carry out demonstrations of health services which it may be desirable to establish permanently under public or private auspices, to cooperate with and in every way to assist and supplement the service provided by the Division of Health of the city.

It is believed that unless the above two recommendations are substantially met, in spirit if not in the precise form indicated, a large part of the value of the present critical inspection and analysis of Cleveland's hospital and health resources will be lost and the public interest aroused in the course of the very broad contact with many groups of citizens and officers of the city government will be dissipated before action is taken.

In order to picture more definitely than we find it understood by many interested citizens of Cleveland, the history, evolution and present functions of the Welfare Federation, the following brief statement is included through the courtesy of the Director:

"The Welfare Federation is an outgrowth of the community teamwork evidenced for many years in Cleveland.

November, 1903, the Federation for Jewish Charities was incorporated to collect portion contributions for the maintenance of all Jewish charities, the promotion of science and art, and the interests of members of the Jewish faith and of the city in general.

The idea of federating all local civic and philanthropic work originated with the Chamber of Commerce. Mr. Martin A. Marks, interested in the Jewish Federation and a member of the Chamber of Commerce Endorsement Committee, with the members of the committee, visualized the strategic advantage of conducting an attack on Cleveland's problems from the vantage point of the "Allied Council" principle. This step ended several years' work of the Endorsement Committee, through which it carefully laid out standards and practices which should govern the organization and administration of a philanthropic agency.

The Federation for Charity and Philanthropy, as the organization was originally named, was formed in 1913 to aid the agencies in the most crucial part of their work—social planning and money raising; to save them from going twice over the same ground, and to give each agency and Clevelanders in general a view of the city's social problems as a whole.

By 1917 Cleveland had largely lost its small-town view of merely localized institutions to be cared for. It had seen how the work of the agencies and the Federation were duplicated and how they must be coordinated if progress for the city were to be made without duplication or waste energy. Recognition of this broadened vision was evidenced by a changed understanding of the social service field and by increased and popularized collection of funds for social service work.

During this time the Welfare Council, a voluntary combination of social agencies and civic bodies, with no budget or executive staff, had been formed to counsel and cooperate with the newly created Department of Public Welfare, as well as to promote social reforms and measures and practices among private philanthropic organizations.

The merger of the Federation for Charity and Philanthropy and the Welfare Council into the Welfare Federation of Cleveland, in 1917, was a recognition by all concerned that the functions of the two belonged together. Counsel and cooperation between public and private agencies and democratic representation of the social service bodies were thus provided for the benefit of the Welfare Federation and the good of the city when each member agency of the old Welfare Council was accorded representation by two delegates on the General Board of the new organization.

This body, called the General Board, is composed of two delegates from each member agency of the Federation. It hears and discusses policies and plans for new movements, investigates problems, recommends action and elects the active Board of Trustees.

The Welfare Federation office became the focal center for cooperation and planning among the social service agencies. It is the larger self of its constituent organizations and serves constituent agencies and the public along two general lines of activity:

First: Budget-making and money raising.

Second: Social planning, problem study and education.

Under the impulse of the unifying motive growing out of the war, Cleveland, in common with many cities, built up a very strong organization which, through united

effort, gathered money for the various purposes connected with the war. This organization succeeded in securing more than one-third of all the population as subscribers and generous over-subscription on each effort and, greatest of all, these experiences revealed to the community itself a fuller measure of satisfaction and achievement in cooperative effort than the city had ever known before. All distinctions of creed, faith or political affiliation were forgotten in behalf of common ideals and a great collective purpose.

Cleveland's habit of working together through its federations and in other civic ways, made it quite natural that it should preserve this effective piece of machinery created during the war. Accordingly the war organization was continued under the name of the Community Fund, and in the fall of 1919 a campaign was conducted to take care of the current needs of all the social service agencies and to raise Cleveland's quota for unfinished war needs and for national and international organizations having a claim on the city's cooperation.

A broad campaign of education and publicity, conducted through the press, the movies, the pulpit and lecture platform, window exhibits, parades and other graphic means of publicity, preceded the campaign. The number of subscribers usually contributing to peace-time enterprises was about twenty thousand. This campaign enrolled 160,000 givers, again more than reaching the goal, which was \$3,425,000, the amount subscribed being \$4,015,000.

For nearly twenty years Cleveland has been studying its social service agencies. In turn it developed endorsing work, the Jewish Federation, the Welfare Council, the Welfare Federation, and finally the Community Fund. While this development had made much progress in the way of budget studies and in the planning of work, each year's experience has shown the need for more definite knowledge and for more intensive effort in the creation of standards.\* The city feels a responsibility for meeting the great future which is before it, with as much foresight and vision as is humanly possible for it to apply to these problems."

### CHARTER PROVISIONS

The charter of the city of Cleveland, approved July 1, 1913, in section 69, provides for the election of a Mayor every two years. The City Council, now consisting of 26 members, one councilman from each ward, is elected at the same time. In the council is vested the legislative power of the city, except as reserved to the people by the charter. These are the only elective city officials provided under the charter.

Section 78 of the charter provides for administrative functions to be carried out under several departments, the directors of which form the Mayor's cabinet—Law, Public Service, Public Welfare, Public Safety, Finance, Public Utilities, Parks and Public Property.

Section 82 of the charter provides that the Mayor and directors of the various departments shall constitute the Board of Control. No contracts involving an expenditure in excess of \$1,000 can be awarded except on the

\*Plans for a hospital and health survey began here several years ago. A tentative plan was then drawn up and considered by the Cleveland Foundation. This was the beginning of agitation for a survey. The thing that brought it to the forefront again last year was the number of hospital projects under consideration. As the result of a conference in Lakeside Hospital, the Community Fund wrote the President of the Welfare Federation about it and he called a meeting of interested hospital and health workers at the time and out of this developed the Hospital and Health Survey under the auspices of the Cleveland Hospital Council.

approval of the Board of Control (Section 124). Section 189 gives the Board of Control authority to fix the number and salaries or compensation of all the officials and employes except the directors of the departments, members of the City Council and its employes, members of the Division of Police and Fire under the immediate control of the chiefs thereof, and of the members of boards or commissions in the unclassified service of the city.

Section 41 states that the fiscal year begins on the first day of January. On or before the 15th day of November in each year the Mayor prepares an estimate of the expense of conducting the affairs of the city for the following year. This estimate is compiled from detailed information obtained from the various departments on uniform blanks prepared by the Director of

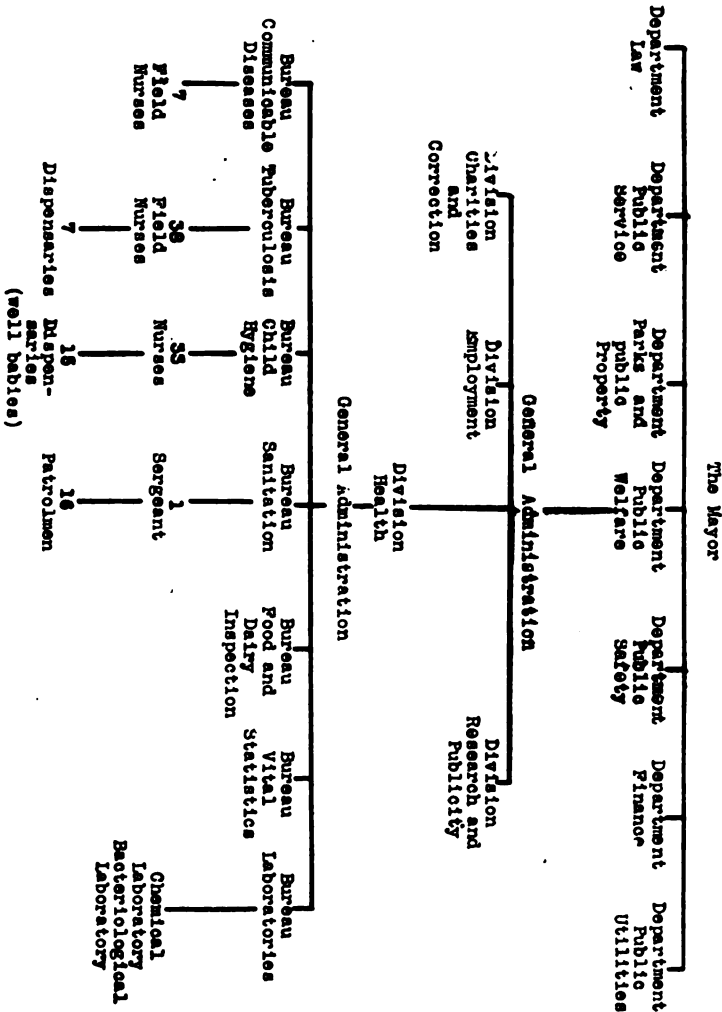


FIG. 1.



**Finance.** This is submitted to the council, which, in accordance with Section 42, prepares an appropriation ordinance, using the Mayor's estimate as a basis. Provisions are made for public hearings upon the appropriation ordinance before a committee of the council or before the entire council sitting in committee as a whole. These proceedings are public and are published.

Section 83 provides that the director of a department, with the approval of the Mayor, may appoint a board composed of citizens qualified to act in an advisory capacity to the commissioner in any division under his supervision.

### DEPARTMENT OF PUBLIC WELFARE

A glance at the organization chart of the city government (Figure I) will make it plain that, with the exception of the health functions (educational, protective and constructive) which are served by the Board of Education, all the public health services of the city of Cleveland fall within the Department of Public Welfare. Sections 81, 97, 98 and 99 of the charter concern us particularly here.

#### SECTION 81

The Department of Public Welfare is the one to which is entrusted the administration of the public health activities in the city.

#### GENERAL POWERS AND DUTIES. SECTION 97

The Director of Public Welfare shall manage and control all charitable, correctional and reformatory institutions and agencies belonging to the city; the use of all recreational facilities of the city, including parks, playgrounds, public gymnasiums, public bath houses, bathing beaches and social centers. He shall have charge of the inspection and supervision of all public amusements and entertainments. He shall enforce all laws, ordinances and regulations relative to the preservation and promotion of the public health, the prevention and restriction of disease, the prevention, abatement and suppression of nuisances, and the sanitary inspection and supervision of the production, transportation, storage and sale of foods and food-stuffs. He shall cause a complete and accurate system of vital statistics to be kept. In time of epidemic he may enforce such quarantine and isolation regulations as are appropriate to the emergency. He shall have the supervision of the free employment office. The Commissioner of Charities and Corrections shall be the Deputy Director of Public Welfare.

#### PUBLICITY AND RESEARCH. SECTION 98

The Commissioner of Publicity and Research shall provide for the study of and research into causes of poverty, delinquency, crime, disease and other similar problems in the community and shall by means of lectures, exhibits and in other proper ways promote the education and understanding of the community in those matters which concern the public health and welfare.

**HEALTH COMMISSIONER. SECTION 99**

The Commissioner of the Division of Health shall be the health officer of the city, and shall, under the direction and control of the Director of Public Welfare, enforce all ordinances and laws relating to health, and shall perform all duties and have all the powers provided by general law relative to the public health to be exercised in municipalities by health officers; provided that regulations affecting the public health, additional to those established by general law, and for the violation of which penalties are imposed, shall be enacted by the council and enforced as provided herein.

## Public Health Services\*

**T**HE divisions of the Department of Public Welfare, as outlined in the charter, are: Health, Charities and Corrections, Recreation, Research and Publicity and Employment. The Division of Recreation has been transferred from the Department of Public Welfare to the Department of Public Service. The Division of Housing has been transferred from the Department of Public Safety to that of Public Welfare. The Divisions now functioning are those of Health, Charities and Correction, Employment, and Housing.

There is no Commissioner of Research and Publicity, although a brief experience with the service of the Division of Health shows clearly the sad lack of the functions which such a Commissioner might have been supposed to fill. Inquiry at the City Hall as to why this important charter position was left vacant elicited the reply that such a service would only create jealousy among the departments and commissioners because of the certainty that the "advertisement" would always exploit one at the expense of the others. There seemed to be no conception of the idea that was obviously in the minds of the charter framers that a city government needs to test administrative, social and health measures and must, in honesty to its citizens, use systematic educational publicity to interpret its work, its needs, its difficulties to the people, and to have an organized service free from commercial pressure or the warp of special interests.

With the right man in such a place the community would double its return on its present investment in its Department of Welfare. The health interests of the city should demand that the position be filled.

Among the obvious and desirable services to be rendered by educational publicity for the Division of Health are:

- (a) Advertising the services of nurses, clinics, dispensaries, health centers and hospitals.
- (b) Gaining the cooperation of special groups, as tenement dwellers, restaurant proprietors and storekeepers, so that the work of inspection may be made easier and more effective.
- (c) Gaining the support of voters for legislative programs on public health and sanitation.
- (d) Developing a community sensitiveness and conscience in matters affecting the sanitation of environment and the maintenance of personal health.

There is no Board of Health and no permanent advisory commission or board upon whom the Commissioner of Health relies for consideration of policies and programs, although Section 83 provides for such.

\*In the preparation of the following description of the powers, functions and accomplishments of the Division of Health the Survey has received, with the consent and approval of the Commissioner of Health, Dr. H. L. Rockwood, valuable original data from the unpublished records of the Division, collected and written out for the purposes of this publication by Dr. G. W. Moorehouse, Chief of the Bureau of Communicable Disease, whose services as contributor to the Survey report have been of much value.

The Director of the Department of Public Welfare is appointed by the Mayor. The Commissioner of Health is supposed to be appointed and may be removed by the Director in conformity with the civil service provision of the charter (Section 81). As a matter of fact the selection is a personal one and must in practice suit the Mayor. Health Commissioners are not selected on a civil service basis, although the present commissioner would easily qualify in any impartial examination. The commissioner is supposed to appoint all officers and employes of the division, but as a matter of fact he has to accept, in major official, as in the humble positions of inspector or clerk, those sent by the office of the Mayor or by other city officials without the Mayor's sanction.

Political interference with personnel in a service requiring so much technical training, depending as it does upon carefully coordinated work of the various bureaus and dealing with all the intimacies of disease detection and control and the conditions of living of individuals, is certainly inimical to the best public interests. Just prior to elections and at other strategic moments the weight of political pressure by correspondence and personal notice is occasionally brought to bear upon the personnel of the division. This is an intolerable abuse of party politics.

The Commissioner of Health is the executive officer of the division. His duties are to direct, control and supervise the work of the division. For this he receives a salary of \$1,700. He is at the same time Medical Director of the Tuberculosis Sanatorium at Warrensville, for which he receives \$3,300 a year. The latter position can be filled adequately by a part-time physician if he has the knowledge and experience possessed by the present commissioner. The position of Chief Executive of the Division of Health cannot possibly be filled by a part-time officer. Nothing less than full time, one might say over-time and all the time, can meet the needs of the situation with the insufficient staff and program as at present provided for the Health Division.

Except on Sundays and holidays the office of the Division of Health is open from 8:30 A. M. to 4:30 P. M. with its full clerical force. At noon the members of the office staff have one hour off for lunch. From 4:30 to 7:30 P. M. on week days and from 9 A. M. to 12 noon on Sundays and holidays, a desk officer is present to receive calls for district physicians, reports of communicable diseases, and to make out burial permits. In epidemic periods longer hours may be arranged.

Supplies, maintenance, equipment and repairs needed by the Division of Health are secured by requisition and the system of checks and revisions appears adequate to protect the city in emergency, as well as in routine orders. The burden of the system falls upon the commissioner, who is really the bookkeeper of the Division. The divisional store room serves a useful purpose for the stock of standard supplies. An annual inventory, with statement of depreciation, is taken as of December 31st for the information and record of the Director of Public Welfare and the Commissioner of Health.

There are, in addition to the Bureau of Administration, which consists of the commissioner and two clerical assistants, the following bureaus:

Communicable Disease  
Tuberculosis,  
Child Hygiene,  
Sanitation,  
Food and Dairy Inspection,  
Laboratory,  
Vital Statistics.

Under the previous Commissioner of Health a valuable publicity service by a monthly educational leaflet and a question and answer service in the newspapers, was provided by private funds. Budgetary requests for public health education have been struck out of the appropriation ordinances each year.

The service of the Bureau of Communicable Diseases for venereal disease control is dependent upon outside support.

The Bureau of Child Hygiene does not include prenatal and maternity services, or school medical inspection for parochial schools.

There is no housing or institutional inspection service provided, although these functions might be served by an expansion of the bureaus of sanitation and of child hygiene.

There is no service for industrial hygiene.

#### APPOINTMENTS

The Civil Service Commission states that the Commissioner of Health and all employes of the Division of Health are under the classified civil service and in the class known as competitors. (See Amendments to the Charter, Sec. 131). However, examinations for physicians and nurses have never been given, and the commission, after investigation, concludes that competitive examinations for these positions are not entirely practical. As a result of this decision the clerical positions in the Division of Health and those of sanitary officers are the only ones for which examinations have been given.

When a vacancy exists, the list of applicants who have taken the examination is consulted and an appointment is made from this list. Should there be no such list, a condition which often occurs, a vacancy may be filled temporarily, but such appointee must take the examination as soon as an opportunity offers. Should the applicant fail in the examination and there be still no list from which an appointment may be made, the applicant may be continued in the position.

Applications for the position of field nurse must pass through the hands of the Central Committee on Public Health Nurses, a private organization, and be acted upon by this body. This committee consists of a lay and a pro-

sional representative of the Visiting Nurse Association, school nurses from the Board of Education and field nurses of the Division of Health. This procedure is in no way provided for in the city charter or by ordinance. It is entirely extra-legal. The same end would be attained within the law if the Civil Service Commission designated the Central Nursing Committee as examiners of nurses applying for positions in the classified service. The commendations of this committee are needed in the appointment of visiting and school nurses as well as the field nurses of the Division of Health. In this way an excellent type of nurse for these positions is secured.

There is no probationary period for employees of the Division of Health and there are no formal reports on efficiency. There is no physical examination given for physical fitness before employment and none are provided hereafter. Except for the sanitary police, who share in the rights of the police pension fund, no employees of the Division of Health have any rights in any city pension fund. All sanitary police receive a complete physical examination, including a Wassermann test.

The appropriation for the Division of Health for 1920 is:

## BUREAUS

General Administration.....	\$ 6,650	of which	\$ 5,990	is for salaries.
Communicable Diseases.....	57,010	" "	37,800	" " "
Tuberculosis.....	79,368	" "	74,670	" " "
Child Hygiene.....	80,304	" "	76,774	" " "
Sanitation.....	60,170	" "	51,857	" " "
Food and Dairy Inspection.....	49,994	" "	48,436	" " "
Laboratories.....	34,468	" "	31,409	" " "
Vital Statistics.....	7,029	" "	7,029	" " "
	<u>\$374,993</u>		<u>\$333,965</u>	

or a total appropriation of 47c per capita of the population of Cleveland as of January, 1920 (796,836).

The per capita cost of the Division of Health varied between 10 and 13.6 cents per capita (usually about 12½ cents) from 1884 to 1898; from 1899 to 1901, 30 to 37 cents; 1902 about 60 cents, the high years 1899-1902 being due to smallpox. The appropriations for smallpox in these years built a smallpox hospital on the City Hospital grounds, a frame building, which was later renovated for advanced cases of tuberculosis. From 1903 to 1910 the expenditures averaged somewhat more than 20 cents per capita. In 1909 smallpox again threatened to become serious and the health office received an appropriation of \$50,000. \$12,000 of this was used to combat the disease and the remainder to complete the contagious disease building at the City Hospital. In 1913-1919 the per capita cost rose from 38 to 41 cents.

The per capita cost in 1915 was 35.7 cents. When it is recalled that a dollar in 1920 will buy in terms of service and supplies little more than half what it would in 1915, the absolute increase to 47 cents per capita of the

appropriation really means a decided reduction in public health service compared with the appropriations before the war which were even then less than half the amount spent by some progressive communities.

The city of Detroit has appropriated for the current year's health budget a total of \$709,570, or 71.4 cents per capita. This appropriation includes the same services as are provided for in Cleveland's budget above specified with the exception that school medical inspection for all the schools is provided for within the health department in Detroit. If this deduction is made the per capita allowance for functions essentially identical with those provided for in the Cleveland Division of Health will cost Detroit 60 cents per capita.

There is a total of 250 employees provided for, of whom

37 are physicians,

45 are from other professions or are technicians, veterinarians, bacteriologists, chemists, etc.

85 are nurses,

31 are sanitary police officers,

40 are clerical assistants, stenographers, typists, etc.

12 are laborers, cleaners, messengers, etc.

The eight-hour day is the rule, except for the part-time employees, and for the district physicians who are on call day and night.

One day's vacation for each month of service up to a maximum of two weeks' vacation each year is allowed. Sick leave with pay up to two weeks in a year is provided for. Organized care, medical and nursing, for sick employees is not provided, but the district physicians visit sanitary officers for illness, and nurses visit nurses reporting ill.

Keeping track of the payroll and absences from work is adequately provided for in the commissioner's office.

#### ADMINISTRATIVE DISTRICTS

There are districts for sanitary inspection, districts for the city (district) physicians, and so-called Health Center districts, none of which coincide with any unit for which complete population data are available. If it is found desirable to continue the use of the three sets of districts as at present, they should be so outlined as to include multiples of the census tracts or sanitary areas for which population data can readily be made available. As it is at present neither the Commissioner of Health nor his officers know the population, the rates of births, deaths or morbidity for the areas of the different districts, although a beginning has been made to collect and tabulate information according to Health Center districts. These are shown in Fig. III.

It is recommended that the city government and private agencies operating field services or serving community needs adopt as the basis for all administrative districts the so-called census tracts, or as they are called in

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main cities, sanitary areas. These sanitary areas, of which there are 131 specially designated and used by the Census Bureau for the collection of population data, are sufficiently small to make it possible by assembling such as to outline administrative districts suitable for all varieties of medical, social and public administration work (see map of city, giving these sanitary areas, Fig. II.). When it is appreciated that all the important data which are needed to measure the results of health work, the distribution and shifting of population and the results of all varieties of social effort for the community, are collected and made available through the Federal Census for each of these small districts, the value of operating public and private medico-social utilities according to districts for which all this important information will be readily available for comparison decade by decade, can readily be seen.

The administration of the Division of Health is centralized, the main offices and the laboratories being at the City Hall. The district physicians receive calls through the City Hall and through the police stations in their district and at night at their homes. The work of the Bureau of Child Hygiene and Tuberculosis is done largely from and in district offices called Health Centers, which are really branch offices for the convenience of providing diagnostic, educational, nursing and follow-up care, in locations easily accessible to the homes of the majority to be served. Detailed description of the functions and administration of these centers will be found under the Centers and Dispensaries, Public Health Nursing and Child Hygiene (Parts IX. and III.).

Although the use of these district centers for tuberculosis and infant welfare work was an innovation in the administration of the Cleveland Division of Health, neither the principle nor the methods constitute an important step in health administration except in the feature of having the nurses from the various bureaus serve all public health functions in their districts regardless of the bureau to which they are credited on the payroll. Concerning this important and controversial type of public health nursing service, detailed discussion will be found in the appropriate chapter on public health nursing (Part IX.).

For the work of the Bureau of Tuberculosis and Child Hygiene the city is divided into seven districts with "Health Centers." These are housed in buildings, apartments or ground floor store rooms. Historically these were originally tuberculosis dispensaries, each with its staff of a doctor, a superintendent and a group of nurses. At present each has in addition a baby's prophylactic dispensary with its dispensary physician, five have offices for a district physician, and three have dental equipment. The nursing service is centralized. There are eight baby's prophylactic dispensaries, in addition to the seven in Health Centers, or a total of fifteen.

A portion of District 2 is set off from the remainder as a teaching center for Public Health Nursing, under the direction and supervision of Western Reserve University. There is no district physician or tuberculosis dispensary devoted exclusively to this territory, a baby's dispensary is located in it, however. The nursing service for this territory, containing about 9% of the

city's population, is given by the staff of instructors and pupils of the University at no cost to the city. It is commonly referred to as "University District," or District 8.

Fig. III. shows the location of the offices and dispensaries in each health district which provide for prevention of disease or for treatment of the sick. (The area omitted at the east end of District 6 does not contain any of the facilities considered.)

Fig. IV. shows for each health district:

1. The estimated number of expectant mothers under prenatal care per 1,000 births.
2. The birth rate per 1,000 population.
3. The rate of still-births per 1,000 registered births.
- 4 and 5. The death rate of infants under one month and under one year per 1,000 registered births.
6. The number of babies reported for the first time at the baby stations per 1,000 children under two years.

All these figures are for a period of twelve months in 1919-20.

Table I. in the appendix gives by health districts for the year 1919-20 important information concerning births, by sex, nativity and character of professional attendance at the birth.

Table II. gives for each health district for the year 1919-20 an analysis of all deaths by race, under one year, and for the diseases upon which the so-called sanitary index is calculated.

#### CONFERENCES

The Commissioner calls an advisory committee occasionally, usually in the presence of emergencies. The Commissioner has obtained valuable assistance from conference with a committee of druggists in determining policies and action in the control of sale of patent medicines.

The Commissioner holds no regular conferences with the chiefs of the bureaus of his division. There have been a few conferences held by the Commissioner during the past year with the physicians on tuberculosis clinic duty, and with the directors and supervisors of field nurses engaged in this work.

There are weekly meetings held by the Director of Public Health Nursing of the Division which all the nurses are expected to attend. They discuss their work and occasionally have professional matters presented to them by speakers from outside the division.

#### LIBRARY

There is no library or collection of public health literature or reports or professional publications kept in the Division of Health. The Municipal

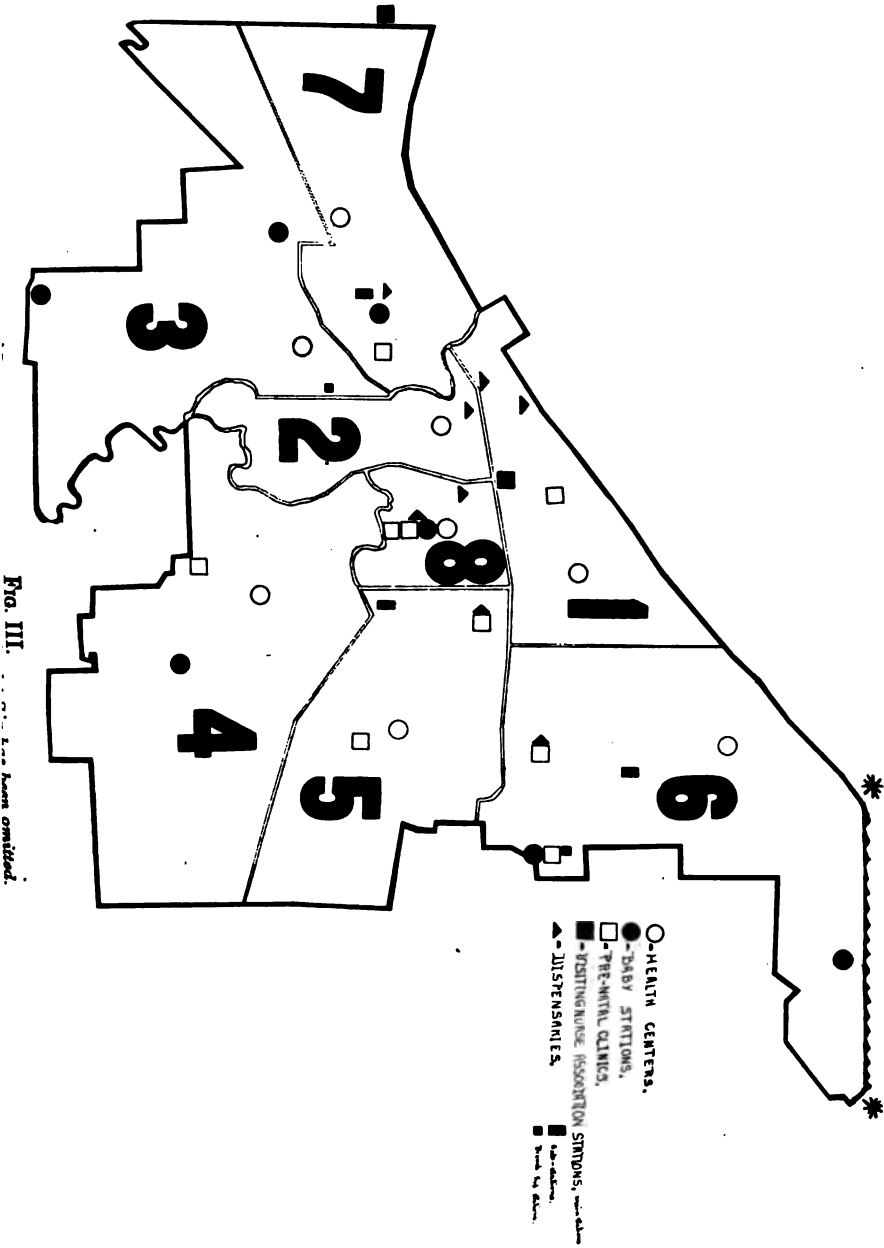


FIG. III. ... from omitted.

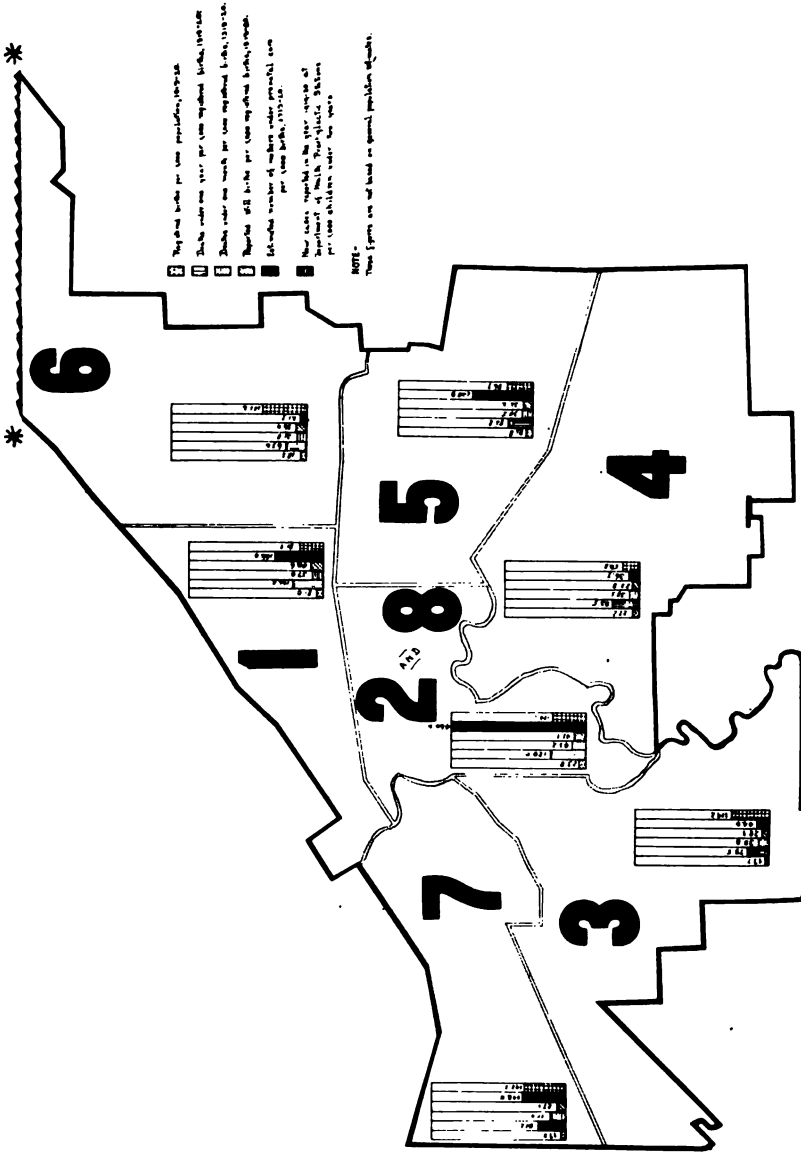


FIG. IV.  
\*The narrow eastern portion of District Six has been omitted.

ice Library, which is situated on the fourth floor of the City Hall, has considerable public health literature, however, and is available for use.

#### LEGAL ACTION

In the Bureau of the Division of Health from which prosecutions originate these prosecutions without any uniform method of reference to the Commissioner. The number of convictions or the failure to secure convictions is not indicated in the report of the bureau chief to the Commissioner. Legal action taken as a result of the activities of any bureau might well be handled by a single officer or through a centralized service in the Bureau of Sanitation rather than in the present way.

#### SANITARY CODE

In March, 1908, a sanitary code was adopted and published covering the important provisions of law necessary to permit control of nuisances of communicable diseases, of meats, milk, dairy and other food products and food stores, of housing, of disposal of the dead, ice, public places, spitting, barber shops, etc.

Recently a revised and modern sanitary code has been adopted which has authority and defines sanitary standards in substantial agreement with present practice. During the past several years (since 1913) there has been no change since the former code became inoperable under the law and until the recent enactment of the revised code there has been great and at times considerable difficulty met by the Division of Health in enforcing the essential provisions for sanitation and disease control. As long as the rules and regulations under which the Division of Health must operate and which serve as basis for its legal action to abate nuisances, require reports of births by the registry of midwives, or to control the persons or premises where communicable disease is found, are passed or enacted only by the council of the city there will be much waste of time and effort in persuading these reluctant and uninformed and uninterested laymen of the essential needs for good health administration. A charter change should be made which would place in the writing by the Commissioner of Health, assisted by an advisory commission of physicians and sanitarians, of rules and regulations dealing with the protection of public health, such regulations to have the force and effect of city ordinances as do those now enacted by the council.

#### FILING

The Bureau of the Division of Health maintains its own filing system; the Commissioner and those of communicable disease, tuberculosis and vital statistics being kept at the central office. Each health center has a card of all families for whom work has been done by the nurses and a complete health history with nurse's notes of those patients who have visited the tuberculosis dispensary.

1917—Death Rate per 1,000 Population. Figures based on population as estimated by the Bureau of Census for the year 1917.

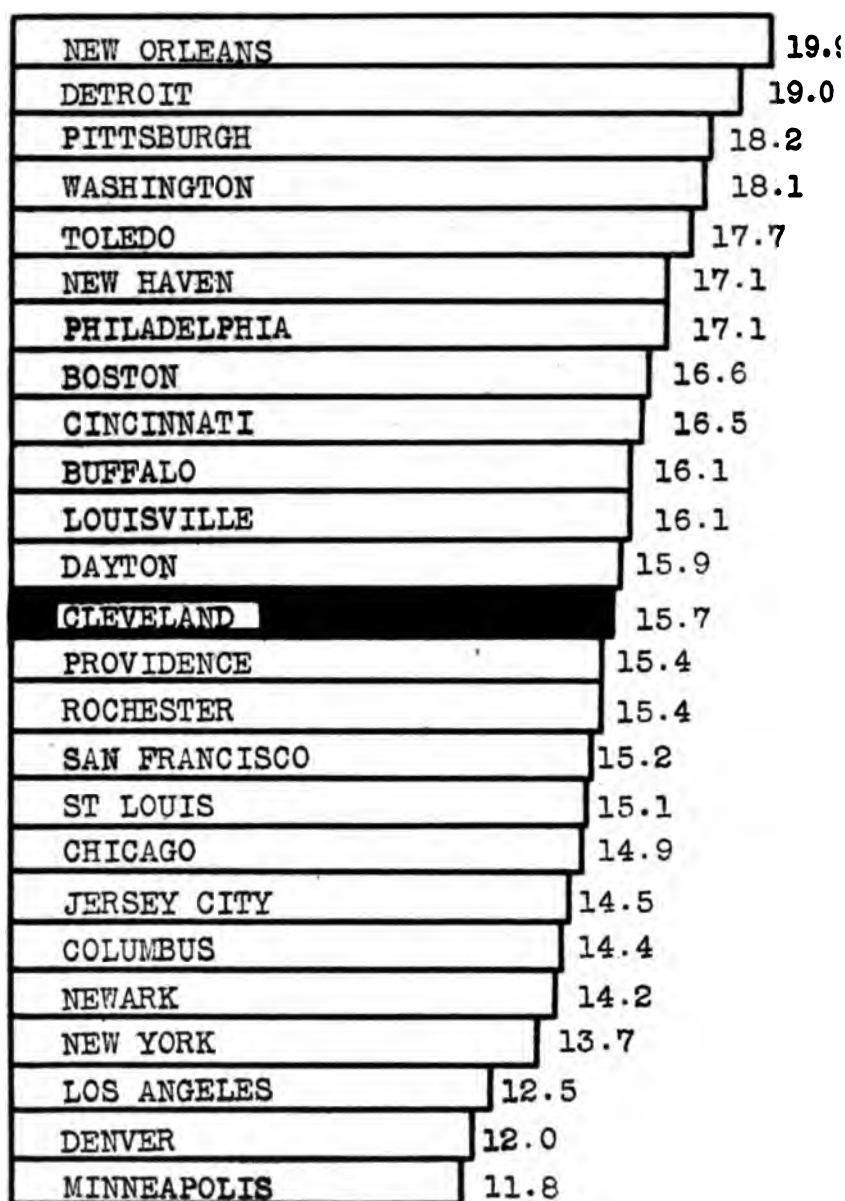


FIG. V.

### MORALE

In spite of the handicaps indicated in the brief description above there is evident, particularly among the physicians, nurses, inspectors and laboratory workers of the Division of Health a spirit of devotion and enthusiasm, a true morale which speaks well for the unselfishness in the leadership and direction of the work. Although more could be done with improved organization and additional personnel there is being given to Cleveland by those constituting the modest force of the Division of Health a quality of service out of proportion to the remuneration and public support accorded them.

There is herewith presented in Fig. V. in graphic form the death rate for each of 25 cities in the United States for the year 1917 from the figures of the Bureau of the Census, the last available.

Cleveland will doubtless wish and undertake to attain a higher relative position. No municipality wants to be merely in the middle of such a series. To be number thirteen when there are twelve better places to fill is a challenge to the energy and capacity of the city's Division of Health.



## The Bureau of Communicable Disease

### AUTHORITY AND SCOPE

**O**RDINANCE No. 32846-B, passed by the council July 13, 1914, and amended chiefly with respect to influenza and influenza-pneumonia, September 5, 1919, provides: that there be created in the Division of Health a Bureau of Communicable Disease. The function of the bureau shall be to prevent the transmission of communicable diseases, perform disinfection, establish and maintain quarantine, and to perform such other duties as shall be deemed necessary for the prevention and control of epidemics.

The Chief of the Bureau of Communicable Disease shall be a graduate of medicine, shall act as the medical consultant of the Division of Health, and shall direct the activities of the bureau. Under the direction of the Commissioner of Health the work of the Bureau of Communicable Disease is carried on by the following: a chief physician (Chief of the Bureau), seven senior physicians (district physicians), with the assistance of a sergeant and five sanitary officers, nurses and typists. The Chief of the Bureau supervises the activities of the Division of Health in the control of communicable disease, examines for diagnosis suspected cases and makes personal investigation when difficulty arises in the establishment of quarantine. In the past smallpox has very frequently demanded a large part of the time of the Chief of the Bureau. In epidemic periods he has commonly investigated all cases of cerebro-spinal meningitis or infantile paralysis or assigned the same to others for investigation.

The revised Sanitary Code gives adequate authority for the control of the acute communicable disease within the City of Cleveland and on vessels arriving in the harbor of the city.

There is no subdivision for venereal diseases, but one is under consideration and provision is made for such a division in the budget prepared for next year. For details of the needs and suggested organization and functions of such a subdivision of venereal diseases see the report on venereal disease, Part V.

The control of communicable diseases in animals is vested at present in the Bureau of Food and Dairy Inspection, because there are veterinarians included only in the personnel of this bureau. It would be in the interest of good organization to have the veterinary work in connection with communicable diseases as well as the care and treatment of human rabies included within the Bureau of Communicable Diseases.

It is probable that, with the expansion of the scope and usefulness of the Division of Health, preventable diseases of occupation or industry, preventable diseases of habit, such as narcotic addiction, and the control of preventable mental diseases will all be included together with tuberculosis and venereal disease, under a Bureau of Preventable Diseases, each large subgroup being dealt with in a special subdivision. All the group diseases, the communicable in man and animals, as well as the non-communicable which

come under the term preventable, require the study of experts in epidemiology and the constant research of trained technicians in the laboratory sciences. The kind of high grade research and direction needed in this field can be obtained or justified only if there is a consolidation of the services coming under a bureau dealing with all preventable diseases.

Of the list of diseases for which report is required impetigo contagiosa, pemphigus neonatorum, tinea and scabies, might be omitted without any loss of service to the public. It is believed that there should be enforcement, with penalties for failure to report, until there is something approaching complete reporting of the more important diseases. No additions to the list are suggested. To forbid those infested with scabies or afflicted with impetigo or tinea to mingle in any way with the public has about the same effect as good advice given in doctors' offices, but unless there is an attempt to enforce such regulations they are better omitted from the body of the law.

The following provision of the Sanitary Code is extreme and its enforcement is not justified without liberal qualifications. It is often disregarded and should be modified. "No superintendent, principal or teacher of any public, parochial or private school or other institution, nor any parent, or other person shall permit any child having any communicable disease or any child living in a family where such a disease exists, or has recently existed, to attend school until the Division of Health shall certify in writing that danger from infection has been removed by recovery, removal or death of the patient, and disinfection has been made according to the requirements of the Division of Health."

Control of undertakers by license and regulations governing their procedure in the case of deaths resulting from certain communicable diseases would be better than requiring the presence of a sanitary officer at the burial. Such extreme precaution applied to bodies after death is out of proportion to the risk. "Every undertaker receiving notice or being called upon to prepare for burial the body of any person who has died from smallpox, scarlet fever, diphtheria, membranous croup, infantile paralysis, or cerebro-spinal meningitis, shall within twelve hours after receiving such notice or call, notify the Division of Health of the time of burial, and such burial shall not take place without the presence of a sanitary officer." It is not the corpse but the undetected, the early, the carrier case about on his feet, who spreads disease.

The following requirement is superfluous if the casket is tight, as required in another section: "No undertaker shall use any vehicle other than a hearse for conveying the body of any person who died from any of the following diseases: Acute Poliomyelitis (infantile paralysis), Cerebrospinal Meningitis, Asiatic Cholera, Diphtheria, Influenza or Influenzal Pneumonia, Dysentery (Amoebic or Bacillary), Plague, Scarlet Fever, Smallpox, Yellow Fever."

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changes in procedure, the most important of which are: placarding solely by the sanitary officers; instruction, the granting of permits and the lifting of quarantine solely by the nurses acting as quarantine officers.

#### REPORTING OF COMMUNICABLE DISEASES

Cleveland physicians have for many years been furnished stamped postal cards for reporting communicable diseases to the Division of Health, but under the Griswold Act they have recently received books of franked cards (with stub) for this purpose. By far the largest number of physicians' cases are reported by telephone. Before quarantine is instituted in reported cases of smallpox or of chickenpox in adults (over 18) the case is investigated for correctness of diagnosis by the physician of the Division of Health acting in the capacity of diagnostician.

The following cards are used at, or turned in at the Communicable Disease desk:

The "telephone ticket" is for immediate entry of all reported cases. It provides for the disease, the date reported, how reported, the address and name of patient, the physician and his address, the officer carding, the date carded and remarks.

The "quarantine officer's report" provides for a report on all the data mentioned above with several additional items, as: date of onset, names of other members of the family if found sick, milk supply, library books, water supply, number of children and adults in family, number attending school, what schools, where carded, where adults are employed, the number of rooms in house, etc.

The "street file" provides for the name of the disease, the case number, the address, name of patient, occupation of parents, name of attending physician, name of officer who imposes quarantine and who later releases from quarantine, number of school permits granted, removal to hospital. Dates: of report, of quarantine, of receipt of convalescent slip, of commencing convalescence, of death, of release from quarantine and of disinfection.

The "nurse's card" provides for a report of essentially the same facts as those asked for on the quarantine officer's report card. All homes quarantined for diphtheria and scarlet fever are visited by public health nurses and this card is made out for each.

The "convalescent ticket" is left in the home so that the attending physician may give the Division of Health the date of beginning convalescence.

The "convalescent card" is made out upon the receipt of the convalescent ticket and filed under the street address.

The work and school permits are given to adults and children released from quarantined premises during quarantine and to the patient and others at the end of quarantine.

The report of the sanitary officer of various types of work performed:  
Disinfection, attendance upon private funerals, spraying, enforcing quarantine, etc.

The record of eye cases received.

The cards described are used as follows in the quarantined diseases: All telephone tickets are taken by the sergeant in charge of sanitary officers assigned to the bureau and given out to the officers for placarding. The name of the officer having the assignment and the date the case was carded is entered upon the ticket. The officer cards the house, front and rear entrances, or if an apartment or hotel, the entrance of the apartment, tells the family the precautions to be used in keeping quarantine, grants or withholds work permits as circumstances require, and fills out the quarantine officers' report. The sanitary officers receive their work at 8 A. M. at the office. They call in from their districts at noon and again at 4 P. M. for work which comes in later in the day.

In District No. 1 and in the University District the nurses act as quarantine officers, placard houses, give permits and make out officers' reports. In all districts the nurses visit all cases of diphtheria and scarlet fever to give instructions in the care of the patient in quarantine and for diphtheria to make cultures of all who may be released from quarantine.

The quarantine officer's report having been returned to the desk is matched with the telephone ticket to verify the completeness of the work and from them the street file is made out.

The telephone ticket is preserved; the quarantine officers' reports for each disease are numbered consecutively for each month, putting two or more numbers on a card, provided more than one case is found in the home; the street file cards are filed by address, a separate file being kept for diphtheria. The results of all cultures taken to release from quarantine in diphtheria are entered on the backs of these cards.

The work and school permits need little explanation. They are given to adults and children who may be permitted to work or to go to school during the period of quarantine, and, school permits particularly, to the patient and others who have been kept under quarantine until its termination.

Convalescent tickets are not used in diphtheria, the patient being released on a culture. When a physician reports a case of diphtheria he is asked if he desires to have nurses take the release cultures, and almost invariably replies in the affirmative. When his consent has been secured the health center in which this patient is located is notified and eight days from the reported onset of the disease culturing is begun. In measles the date of appearance of rash is noted by the officer and the ticket returned to the desk; in scarlet fever the ticket is not left in the home but is mailed to the physician; for other quarantined diseases it is left in the home for the signature of the physician.

The public and parochial schools and the public library receive daily notice of the names and addresses of all cases of diphtheria, scarlet fever, smallpox, epidemic cerebro spinal meningitis and acute poliomyelitis.

Any library books found in the homes in which one of the above diseases is quarantined are brought by the sanitary officer to the city laboratory, disinfected and returned to the library.

The physician in charge of the contagious wards at City Hospital, having reported that many cases of diphtheria admitted to the hospital indicate by their history an entirely inadequate use of antitoxin, a slip giving suggestions for the administration of antitoxin in cases of diphtheria is inserted in all physicians' culture outfits.

Within the past two years an attempt has been made to determine the susceptibility of children in institutions to diphtheria by the Schick test and to provide immunization of those found susceptible, by the use of toxin-antitoxin in three injections at intervals of one week. This has been done on several thousand children with satisfactory results. By preference the institution is "Schicked" when the disease is not present. However, if consent has not been secured before this, study of the children is made on the occurrence of cases.

Plans for making this procedure available to all Cleveland children are under consideration.

#### SMALLPOX

Cleveland has a large unvaccinated population and as a consequence smallpox is a problem much of the time, as indicated by the number of cases handled in the past five years—1915, 45; 1916, 204; 1917, 661; 1918, 1,120; 1919, 232. Fortunately the disease has been present in the very mild form and has caused no deaths. In a thoroughly vaccinated population there would be no smallpox problem, but the only time when Cleveland has had a practically vaccinated population was eighteen years ago, when the presence of the disease in a severe form led the Chamber of Commerce, the Board of Education and the other groups of laymen to get solidly behind the Commissioner of Health in this matter.

Notwithstanding the provision of the communicable disease ordinance that no unvaccinated child may be in school, our children are not completely vaccinated. Out of 105,000 unvaccinated children in the public schools in the year 1917-18, 101,000 were vaccinated by school physicians; 3,600 were permitted to attend school on receipt of a sworn statement from the parents that they were opposed to vaccination, 400 on doctors' certificates and 14 were excluded.

The parochial schools, having no medical supervision, have presented greater difficulties than the public schools. Within the past year the bureau has vaccinated in about half the parochial schools, including most of the largest of these, and this work will be pushed the coming fall.

The district physicians report 12,629 vaccinations in the year 1919.

On the occurrence of a case of smallpox all exposures in the household are vaccinated, all contacts in shops and factories, if the patient had been at work after the onset of his illness and all pupils and teachers in schools for their direct or indirect exposure.

The influx of Southern Negroes accounts to a very considerable degree for the recent cases of smallpox in Cleveland. Arrangements have been made to reach certain of these who enter the city in groups and vaccinate them before they begin their work.

So much for the authority, the system, the method, and all based in the main upon sound medical opinion, except that so-called disinfection by means of gaseous fumigation is probably valueless and an unnecessary expense. In cases of smallpox, and where deaths from tuberculosis have occurred in tenements, disinfection to precede thorough cleansing and renovation of walls and painted surfaces is probably a wise precaution.

### RESULTS

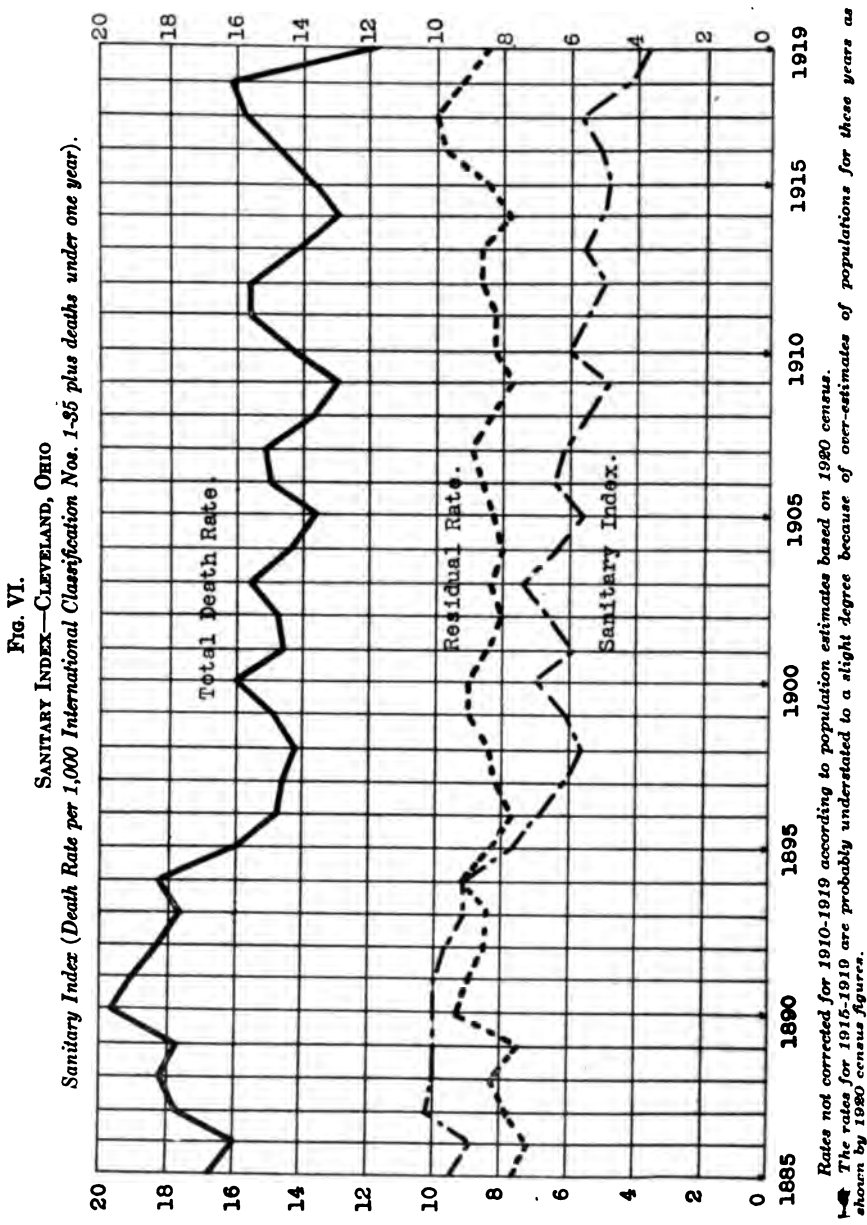
What of the results? To what extent is reporting uniform and observed conscientiously? Are isolation and placards respected? What is the effect on the incidence of the reportable diseases?

Table III. in the Appendix, studied in connection with the reports of deaths in the table of so-called endemic indices, Table IV., discloses the obvious and general incompleteness of morbidity reports.

The results of administrative measures directed to the control of the communicable diseases should be shown in a reduction in the number of cases and in the percentage of deaths among the cases that do occur. The incompleteness of reporting of cases, the margin of error in diagnosis and in statements of cause of death make any conclusions as to the numerical increase or decrease in communicable diseases and deaths from them of doubtful value. However, in the absence of any particular change in the attitude of physicians with regard to reporting and of new or unusual efforts by the Division of Health to enforce reporting by physicians, we may assume that the fluctuations in numbers of cases reported represent bona fide variations in incidence, but not the total incidence. Similarly in the absence of any specific or new and accurate criteria for establishing diagnosis among these diseases, the reports of deaths in this group of diseases in which the clinical picture is fairly typical, probably may be considered quite reliable. No attempt will be made here to calculate the case mortality percentage of communicable diseases in Cleveland, as such studies would extend the report out of all relation to its particular object and immediate uses. Such information should be presented in the annual report of the Commissioner of Health.

For those who are professionally trained to read and understand the significance of and the relative merit in the use of the so-called Sanitary Index and of the Endemic Index a chart and table are prepared from data obtained from the Chief of the Bureau of Communicable Disease. (Fig. VI. and Table IV.)





HS IN CLEVELAND FROM ALL CAUSES AND FOR DISEASES ON WHICH THE  
SANITARY INDEX RATE IS CALCULATED, PER 10,000 POPULATION

(Rates corrected according to population estimates based on 1920 census returns)

	1910	1911	1912	1913	1914
ation.....	564,066	587,936	611,806	635,676	659,546
Deaths.....	8,703	8,545	8,769	9,454	8,980
ry Index Deaths.....	3,414	3,204	3,032	3,503	3,193
	1915	1916	1917	1918	1919
ation.....	683,416	707,286	731,156	755,026	778,896
Deaths.....	9,534	10,719	11,623	13,882	10,616
ry Index Deaths.....	3,280	3,425	3,956	3,496	3,105

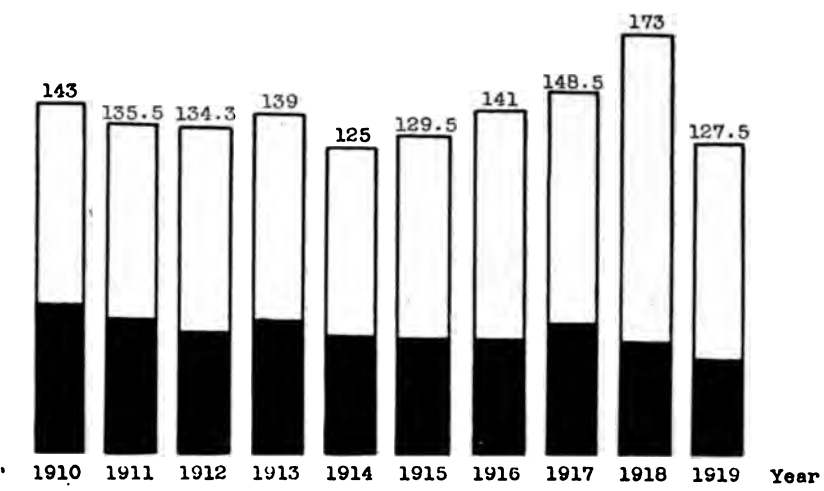


FIG. VII.

roportion of total deaths due to the group of communicable diseases and causes of death under  
re year upon which the so-called sanitary index is calculated, is represented by the shaded  
ner portion of the column for each year.

Rates Based upon Population and Mortality as Reported by the Bureau of Census

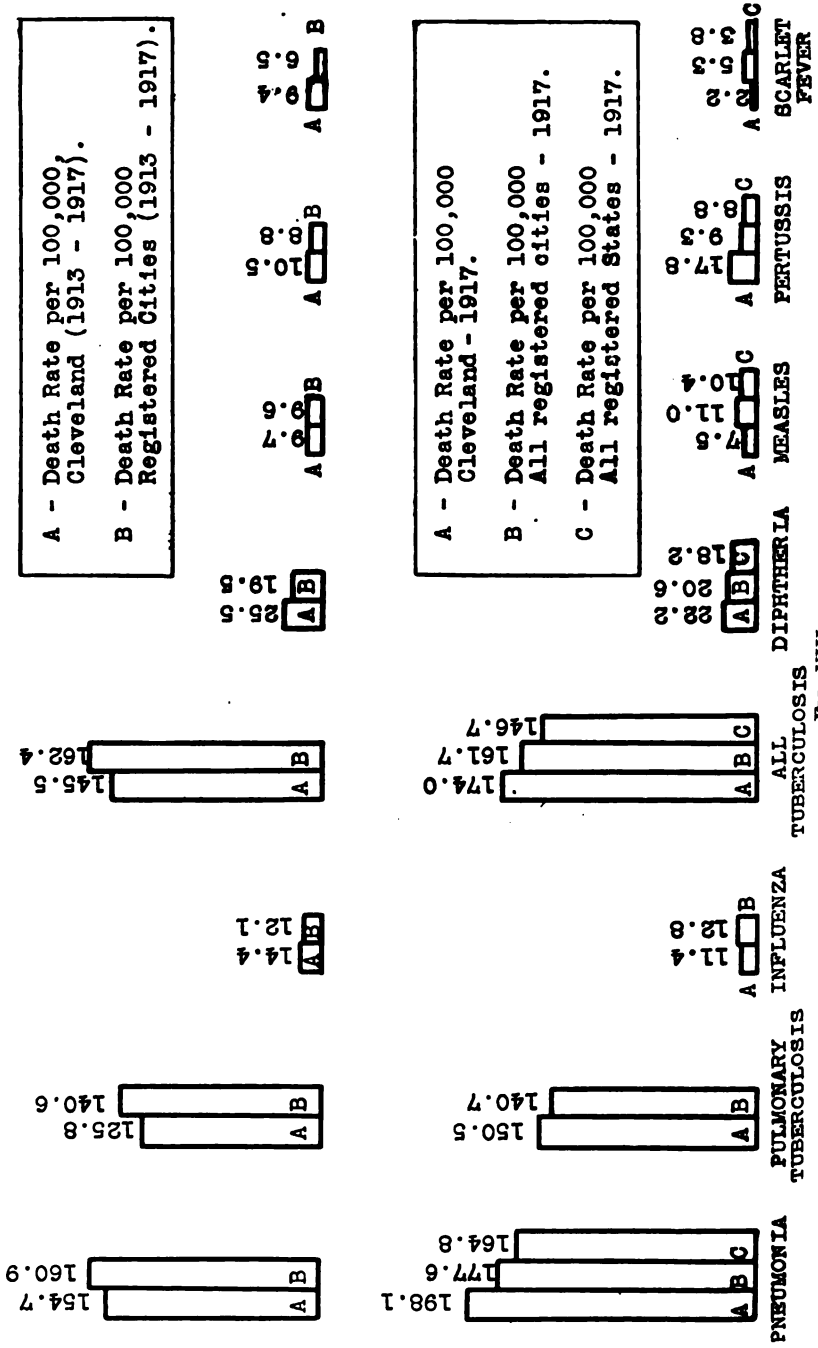


FIG. VIII.

convenience in reference and to give in brief form the actual loss of leveland from the group of diseases included in the list upon which tary index (Fig. VI.) is based for the past ten years, by years, and al, Table V. is prepared. To indicate the relative proportion of all ue to the communicable preventable diseases with which we are fly concerned, Fig. VII. is prepared. Fig. VIII. shows graphically h rates per 100,000 population for eight important communicable in Cleveland and in all cities included in the registration area for

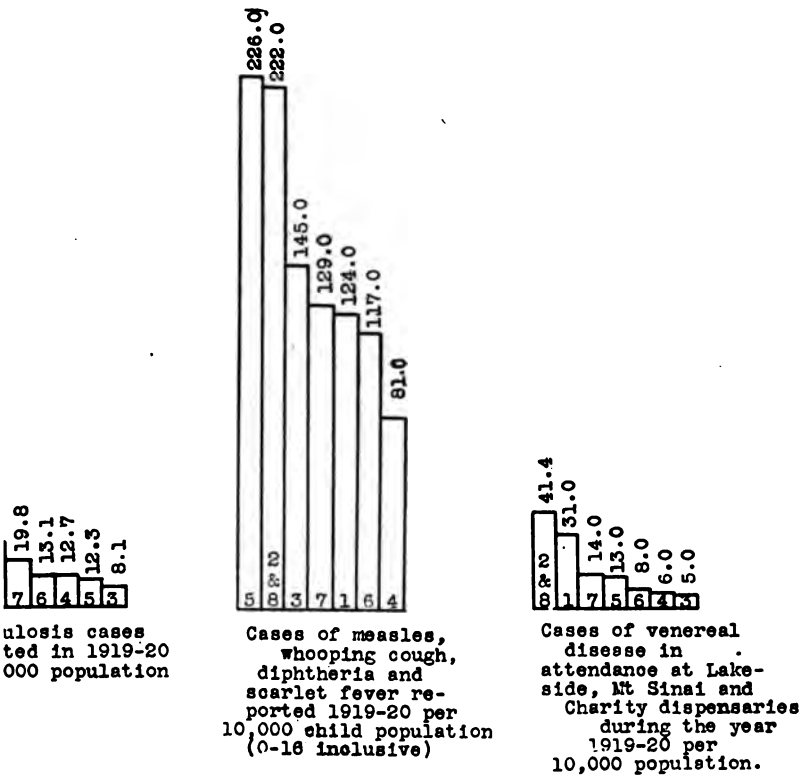


FIG. IX.

quennium 1913-17, and the death rates per 100,000 population dur- for these same diseases in Cleveland, the cities and the states of stration area.

IX. illustrates the morbidity incidence of tuberculosis, of four com- te communicable diseases of childhood and of venereal diseases as from the health districts, showing the relative rates for the districts. e data are presented on Fig. X., a map of the city giving health dis-

ata for Figures IX. to XIII. were based on population estimates before the 1920 census figures le.

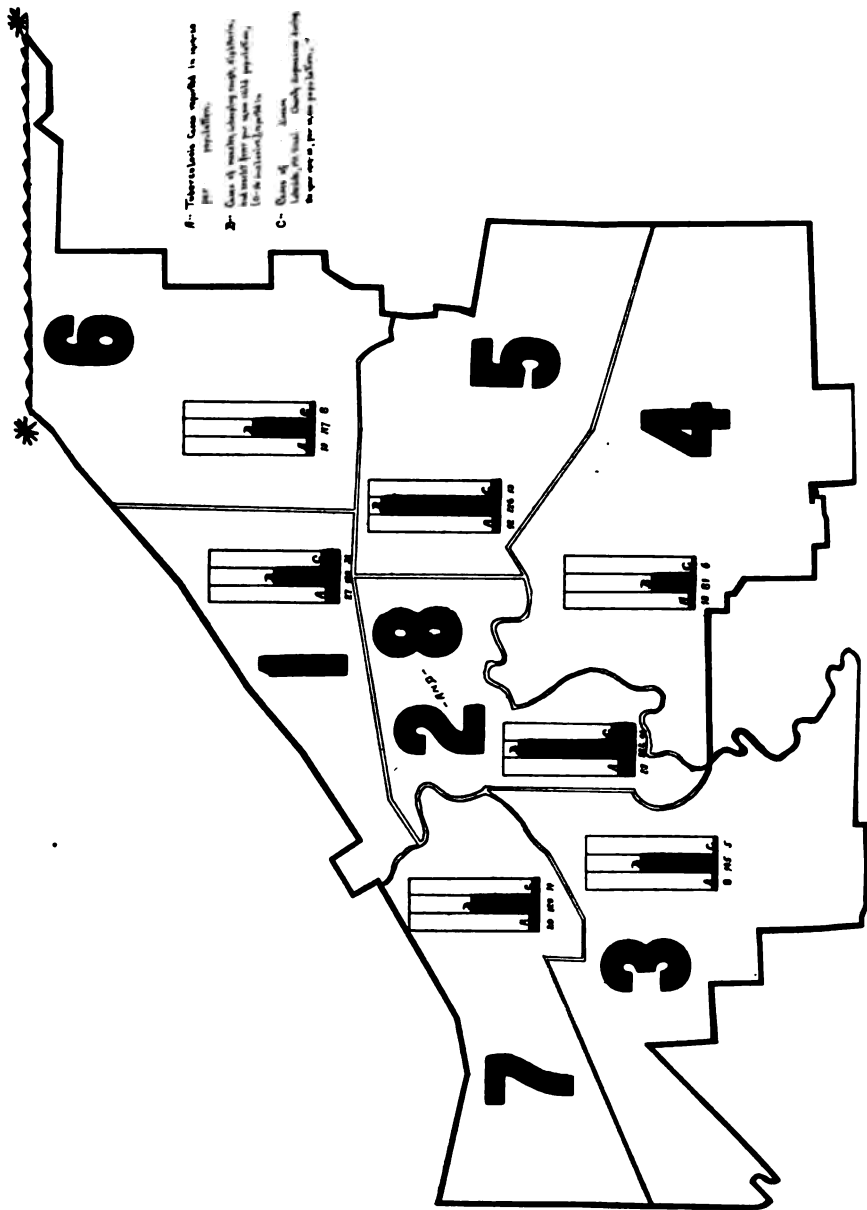


FIG. X.

\*The narrow eastern portion of District Six has been omitted.

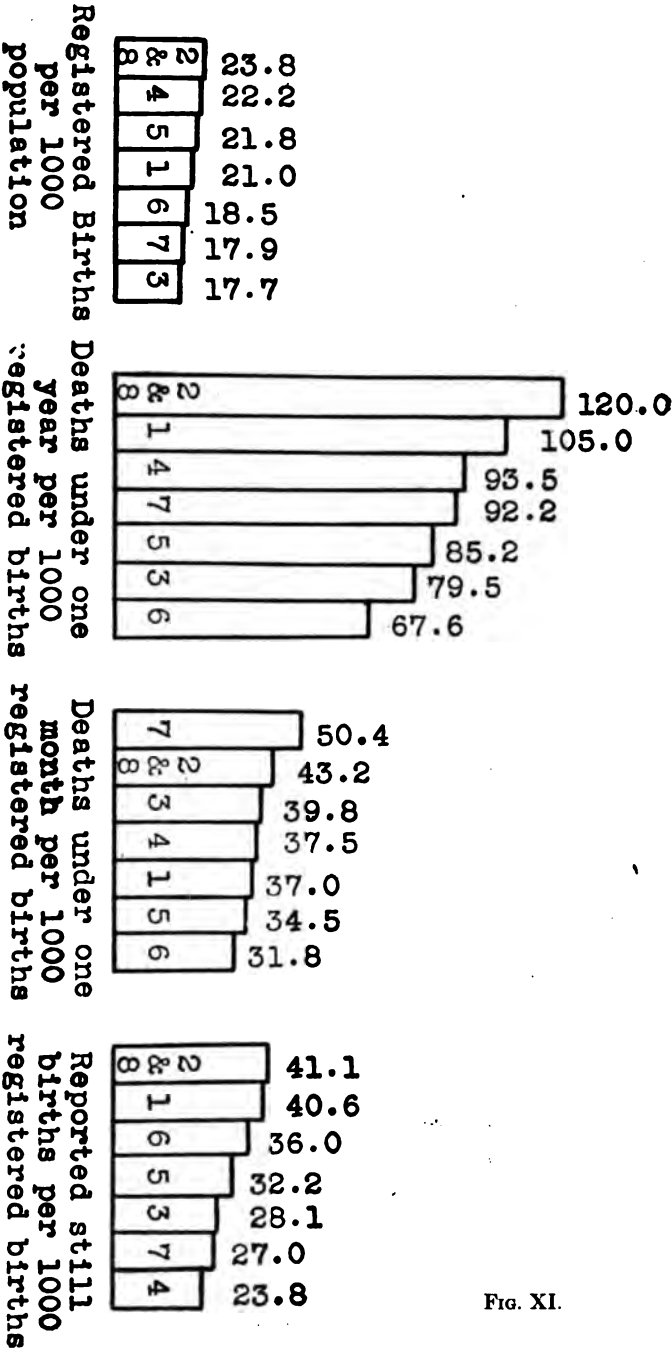


FIG. XI.

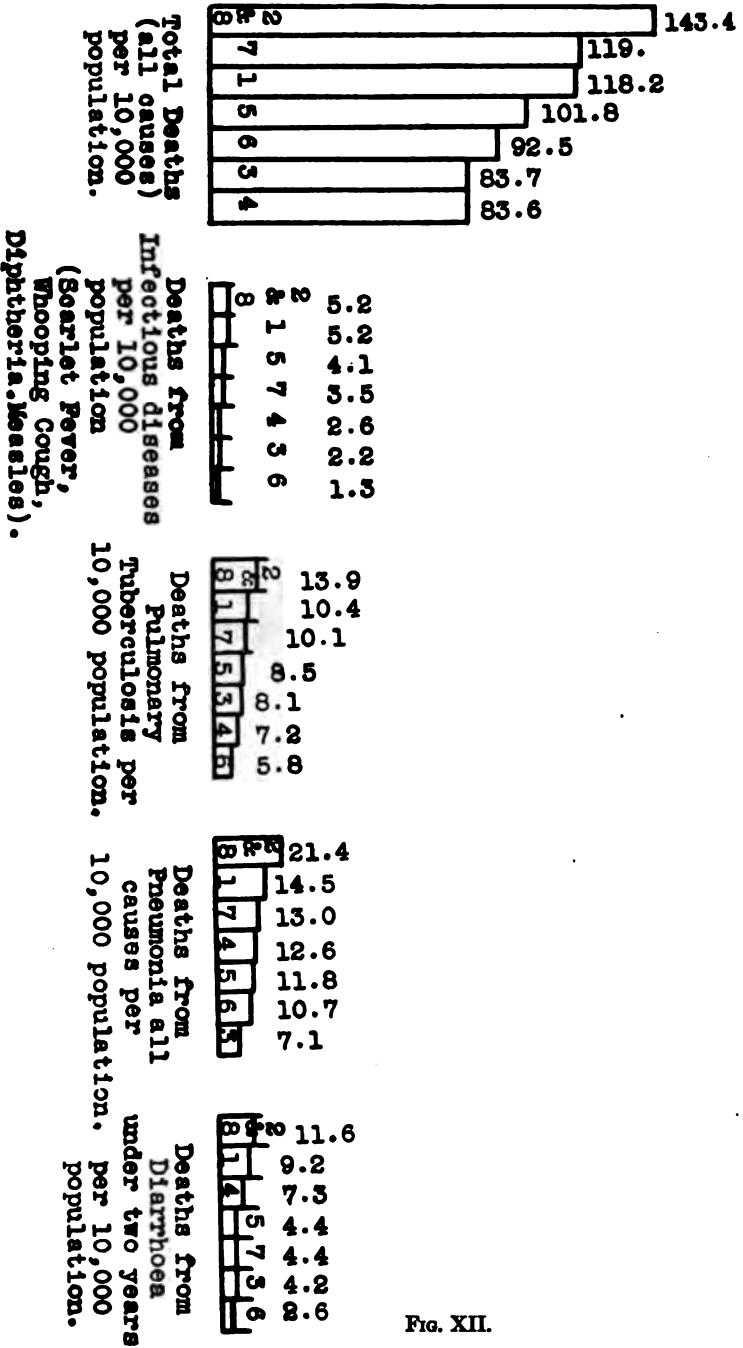


FIG. XII.

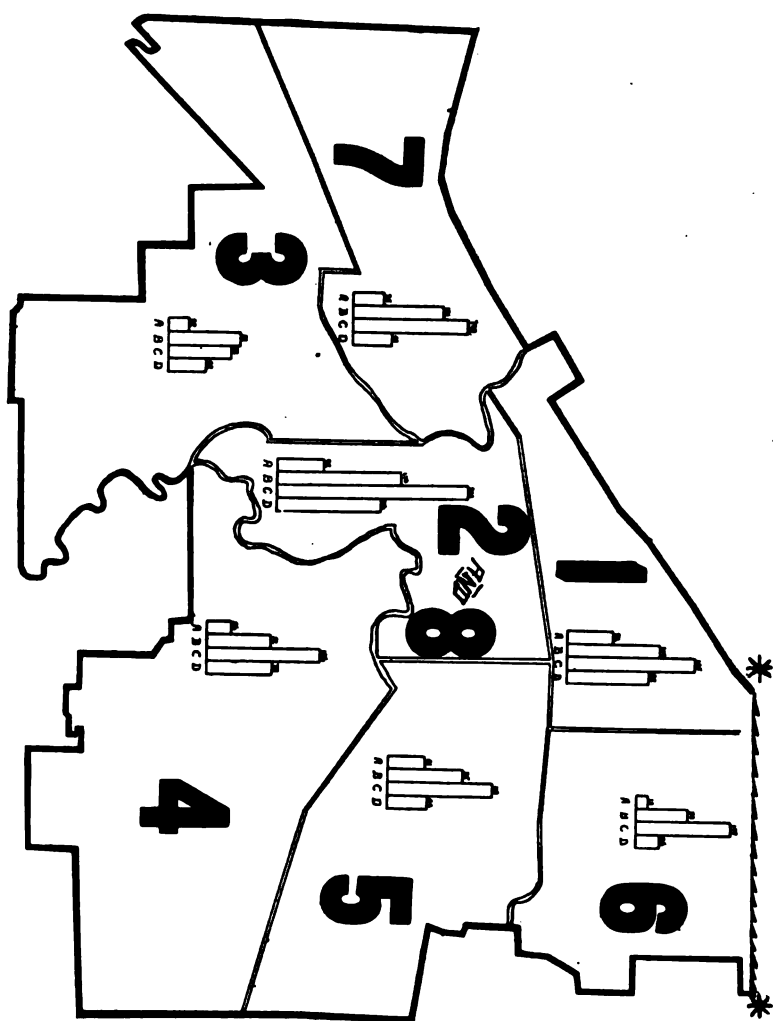


FIG. XIII.

*\*The narrow eastern portion of District Six has been omitted.*

Deaths from scarlet fever, whooping cough, measles and diphtheria per 100,000 population.  
Deaths from pulmonary tuberculosis per 100,000 population.  
Deaths from pneumonia (all forms) per 100,000 population.  
Deaths from diarrhea under 2 years per 100,000 population.



Fig. XI. illustrates the relative position of the health districts as measured by registered births and deaths.

Fig. XII. shows an analysis of death rates from all causes and from various communicable diseases, by health districts. Most of the same data are presented on Fig. XIII., a map of the city divided into health districts.

The reader is referred to parts IV. and V. for complete discussion of the incidence and sufficiency of methods for control, and the results of public health service in tuberculosis, syphilis and gonorrhea.

The accompanying table, quoted from the annual report upon typhoid fever in the large cities of the United States, published in the Journal of the American Medical Association, Vol. 74, No. 10, page 673, shows Cleveland's enviable position resulting in all probability more from the chlorination after filtration of its water supply and the general pasteurization of its milk supply than from other causes.

#### DEATH RATES FROM TYPHOID IN CITIES OF GROUP ONE

(More than 500,000 Population)

##### DEATHS FROM TYPHOID PER 100,000 POPULATION

	1919	1918	Average 1916-1919	Average 1911-1915	Average 1906-1910
Chicago.....	1.2	1.4	2.7	8.2	15.8
New York.....	2.0	3.7	3.4	8.0	13.5
Boston.....	2.2	2.5	2.8	8.0	16.0
Cleveland.....	2.4	4.7	4.9	10.0	15.7
Philadelphia.....	4.4	3.0	5.3	11.2	41.7
Detroit.....	5.3	10.0	12.0	18.1	21.1
St. Louis.....	5.8	7.2	7.5	12.1	14.7
Pittsburgh.....	6.2	9.8	8.9	15.9	65.0
Baltimore.....	8.9	12.2	13.6	23.7	35.1

Cleveland's relatively high death rate from diphtheria (Fig. VIII.) as compared with other cities and states may in part be attributed to the lack of any services of a skilled intubator for patients coming to the care of the district physicians and the unusual indifference of the general practitioner to the importance of early and adequate use of diphtheria antitoxin for therapeutic purposes, on clinical diagnosis or on reasonable suspicion without awaiting positive laboratory confirmation. The experience of the City Hospital contagious service and of the consultants in pediatrics in the city are full of instances where lives were sacrificed by the inexcusable delay in the use of this specific therapy. It is recommended that a physician skilled in intubation be employed by the Division of Health to be available on call for emergencies in diphtheria, and that the Division of Health undertake, through

: Academy of Medicine and directly with the practising physicians, education in the advantages of diphtheria antitoxin and the dangers commonly resulting from delay in its administration.

With the exception of rabies none of the animal diseases require particular mention here, since tuberculosis in cattle is guarded against by adequate meat inspection and by the compulsory pasteurization of milk. The operation of rabies control is bad, owing to the lack of an ordinance requiring licensing, and the lack of enforcement of the state dog licensing law. The most valuable agency in controlling rabies in Cleveland is the Animal Protective League which maintains an active collection service for the removal of stray dogs.

The diagnosis of rabies in animals and man and the protective treatment of those bitten by rabid animals are provided according to good modern standards by the Bureau of Food and Dairy Inspection. The cost of treatment is provided by the county commissioners.

#### INADEQUATE SUPERVISION OF QUARANTINE

In Cleveland as in many municipalities there is frank criticism of the utility of official attempts at quarantine. Responsible physicians and nurses report that keeping of quarantine in Cleveland is so unusual that a family who does keep it is cause for much comment and no little surprise. Instances of inadequate supervision and a lack of firmness or conviction in enforcing regulations are quoted from case reports obtained by the Survey.

E. G., Portland Avenue, was quarantined for diphtheria August 23, 1919. His report was telephoned to the Division of Health the same day, "Patient in room off kitchen. Comes into kitchen frequently. Family upstairs come and go through this kitchen whenever entering or leaving house. Patient's mother refuses to keep quarantine." Division of Health promised to force child into hospital, but did not. The first release culture was taken September 8th, and as the child was a diphtheria carrier, quarantine was continued for a long period of time; the sign finally being removed September 23rd. During this period the woman tore down the sign and went out. This was reported to the Division of Health. The woman and child with positive culture went to market and were absent when the nurse went to culture. A report of this was made to the Division of Health and as far as results were concerned, the nurse might just as well have saved the time she spent in telephoning.

Mrs. P., Scovill Avenue, was quarantined for diphtheria September 17, 1919, and family was cultured on same date. She herself had a positive culture which held so for some time. The sign was taken down October 1st. On the 25th of September the nurse went to culture and found patient with positive culture at church. The nurse returned in the afternoon and as told by patient that as she was not sick there was "no need of such a fuss." This was reported to the Division of Health with the result that on the 29th, when the nurse returned for another culture, the house was closed

and the door was padlocked on the outside. This, too, was reported to the Division of Health with such good effect that the woman was out again on the 30th and neighbors said she was at the store and not expected back for some time.

A diphtheria sign was put up September 19th on the house of Mrs. F., Scovill Avenue. The sign did not come down until October 8th, as the child here was a carrier also. The family made no pretense of keeping quarantine and the Division of Health was informed. The next time the nurse saw the woman she was selling fruit from a stand in front of the house and the child, with a positive culture, was with her. This was reported to the Division of Health and the child remained in the home.

The following notes from a nurse's record indicate some of the reasons for lack of confidence in quarantine. "These cases of diphtheria are typical of our present system. One and all of these families said nonchalantly, when found breaking isolation, 'Nobody does any different,' or 'Mrs. So and So had a sign on her house and she didn't do any different, so why should I?' And when one discovers that in a tiny section, with a population of 12,000, between the months of September and December there were twenty-seven families (under so-called quarantine for diphtheria) who ran wild with no more serious result than a visit from a sanitary officer, can one wonder either at the unconcern of the families or the prevalence of the disease this winter?"

And why must there be such a delay in getting orders to remove diphtheria signs when the cultures have proved satisfactory? In at least a third of these cases the report of the culture comes to the nurse two or three days before it reaches the authority in the Division of Health whose business it is to order the signs removed.

Verified instances of failure to observe quarantine were obtained in a brief period in January, 1920, in the case of the following diseases:

Diphtheria.....	14	instances
Whooping cough.....	15	"
Mumps.....	5	"
Chickenpox.....	1	"
Scarlet fever.....	1	"

The district physicians of the Division of Health find the situation very unsatisfactory, the warnings or threats of sanitary police and nurses failing to produce any substantial results. Firmness, tact and a consistent policy should remedy this.

## SERVICE OF DISTRICT PHYSICIANS

### ORGANIZATION

There are seven full-time district physicians employed by the Cleveland Division of Health under the Bureau of Communicable Disease. One of them acts as Assistant Chief of the Bureau and one handles only cases

of drug addiction, leaving five to cover the district work. These physicians receive \$3,300.00 a year and are required to provide their own automobiles, telephone service and physicians' bags. They are furnished with drugs and surgical dressings by the Division of Health.

Each physician is assigned to one of the following five districts: District One is the entire West Side, exclusive of a small portion of the so-called South Side east of West 14th. District Two is the East Side, from the river to East 71st Street, north of Euclid Avenue; District Three extends from Euclid Avenue, on the north, to the city limits, and from East 55th Street to West 14th Street. This district includes the congested area of the city. District Four extends from East 71st Street, on the west, to the city limits in Collinwood (East 200th Street), to the south side of Euclid Avenue west to East 55th Street, from there to Quincy Avenue and east to the city limits. District Five extends from Quincy Avenue and East 55th Street south and east to the city limits. These districts have different boundaries from those of any other administrative districts used in public or private health work.

#### DUTIES

The duties of the district physicians are to care for the sick poor, investigate suspected cases of communicable disease and to make vaccinations, etc., under the direction of the chief of the bureau. They are not permitted to do any obstetrical work or any major surgery. They are, further, not expected to treat in their homes the more serious diseases, such as pneumonia, typhoid fever, heart disease or nephritis, but to refer such cases to hospitals when possible. Many ambulatory cases are properly referred to the dispensaries of such hospitals as Lakeside, Mt. Sinai and Charity, where the facilities for diagnosis and treatment are better than those at the command of the district physicians.

#### METHOD OF RECEIVING CALLS

Calls for the services of the district physicians come to them in a variety of ways; their names and addresses are known to the police of the city, and the number of calls which they receive from this source is considerable. This applies particularly to night calls. They are reached by people needing their services in exactly the same way that private physicians receive their calls, through the advice of friends and neighbors who give their names and addresses. They are also called by public health nurses, by the Visiting Nurse Association and by other agencies. The greatest single source of calls, however, is to be found in the call book kept for district physicians at the Division of Health. It is impossible to determine exactly the relative number of calls from the different sources. As fair an estimate as can be made is that about one-third are received from other sources than the call book.

#### OFFICES

Each physician is provided with an office at the health center in his district, where he keeps supplies and where patients may go to see him. The office work of the district physician is, however, comparatively small.

### RECORDS

The Division of Health has never required district physicians to keep histories of their cases. Monthly summaries are required and these are made up from records kept in a pocket note book. From these entries the physicians are expected to be able to tell their diagnoses and the disposition of the cases assigned to them. As a test of their ability to report such essential facts they have been asked from time to time in their conferences to report upon cases selected at random from the call book, and the chief of the bureau has found them able to do so.

### SUPERVISION

The work of the district physicians is under the general direction of the Chief of the Bureau of Communicable Disease, although in actual practice there is very little supervision of their work in the homes. Weekly staff meetings are held, except during the summer months, and at these meetings matters of seasonal interest are discussed, and the district physicians are free to bring up special cases for conference.

### VOLUME OF WORK

A table showing the volume of the activities of the different district physicians for the year 1919 will be found in the Appendix (Table VI.)

It is obvious that the amount of work of the different physicians varies greatly. This may be accounted for partially by the character of the districts themselves (for example, District Three, which shows the highest number of calls, includes the most congested and poorest area in the city), partially by the distances necessary to cover in making calls, and partially, no doubt, by the diligence of the individual physicians.

The average of calls per case varies from one in District Five to 3.8 in District One. If an average of two calls per patient be accepted as a standard, two districts (Three and Five) fall below, two districts (Two and Four) are practically equal and one district (number One) is well above the standard.

The number of vaccinations varied greatly, District Five having reported over ten times as many as District Two. It is interesting to note that the highest number of vaccinations was recorded in the district where the average number of calls per case was the lowest.

According to the records the physicians vary greatly in referring cases to agencies. The physician in District Two reports no use of agencies other than hospitals and dispensaries. The physicians in Districts Three and Five show good cooperation with the nursing agencies.

The variation in the amount of work reported raises the question of the desirability of redistricting the city.

## SUMMARY OF COMPLAINTS OF SERVICE

*arious social and charitable agencies:*

1. There were seven sources of complaints because service was not apt. One agency stated that delays of two days or more occurred; her that calls were sometimes never answered. Five agencies stated the service was prompt. The difference in localities could easily account for this discrepancy.

2. Six agencies complained of the lack of continuity of care, the general consensus of opinion being that calls were not repeated sufficiently often as pressure was brought to bear on the physicians.

3. There were two complaints of brutality; one of superficial work; one of difficulty in getting in touch with physicians; one of lack of physicians' understanding of foreign language; one of lack of sufficient home instruction being given.

4. All agencies joined in saying that the district physicians were willing to give medical information to cooperating agencies, although one complained the physicians' records were so inadequate that details of cases were available.

*istrict physicians themselves:*

The district physicians themselves seemed to feel a lack of thorough revision of their work and a failure of cooperation by the Health Division. They expressed a need for standard instruction; for more systematic information as to changes in procedures or policies of the Division of Health, Hospital and other agencies; and in general a lack of sympathetic relationship with the chief of their bureau and the Commissioner of Health.

Other needs brought out by the physicians themselves were: for a constant on their cases; more adequate case histories; a more comprehensive formulary; provision of bottles for dispensing drugs; smaller districts; redistricting of the city.

One physician felt that his work was hampered by the fact that he had no command of foreign languages; another felt a great lack of appreciation among the foreign population.

## RECOMMENDATIONS

It is recommended that:

District physicians be appointed for a definite term of service, with a limit to the number of terms permitted on re-appointment.

Appointments be made after examination, written and oral, by a special committee of physicians appointed for this purpose (from the Academy of Medicine if possible).

There be a special night service rotating through the staff or assigned to the junior members for certain periods.

Ambulatory cases be excluded from care, such cases to be referred to the appropriate dispensary, and not treated at the offices of the district physicians.

The visiting nurses be used as a routine for all cases except those discharged at the first visit or referred to a hospital for care at once.

Each district physician be assigned for part of his time to dispensary work and to sanitary inspection work. The latter function should include reports upon the sanitary condition of the physician's district and special investigations on request of the Commissioner.

Each district physician should be assigned to duty to a particular clinic for dispensary service for several months each year.

There be added three more physicians to the staff to cover the special night service and the extra work that cannot now be done, or be done well.

The city be redistricted on the basis of multiples of the sanitary areas as used by the Bureau of the Census.

Staff meetings be held monthly for consideration of a definite program arranged by the Chief of the Bureau. Each physician should be expected in turn to present a report and take the leading part in one meeting each year. Time for discussion of administrative matters and technical medical questions should be arranged for at each staff meeting.

The district physicians should report by simple forms to the central office by mail daily. These reports, which should be brief, should be tabulated and analyzed at the central office.

### BUREAU OF TUBERCULOSIS

The Bureau of Tuberculosis has been discussed under Part IV. and hence a description of it has been omitted here.

## The Bureau of Child Hygiene

**[T**HE Bureau of Child Hygiene deals with matters of such importance to the entire health and welfare programs, both public and private, that Part III. of the report is devoted exclusively to these subjects, including consideration of the organizations and functions of this bureau in the Division of Health. Furthermore, in the Survey of Nursing (Part IX.), the nursing service of the Division of Health is analyzed in detail, including a special study of the follow-up of infant welfare work from the health centers. In Part IX. in the chapter on Prenatal and Maternity Care, there is discussion of the relation of the Bureau of Child Hygiene to this activity. In Part X. there will be found consideration of the health centers which serve many purposes under the direct control of the Bureau of Child Hygiene. Treatment here of the official public health services for children would be a mere repetition of what is more appropriately dealt with in other chapters.



## The Bureau of Sanitation

FOR several years this division has had no chief and the results are obvious. The scant attention which the commissioner, from the midst of his multifarious duties, can give as the acting chief is insufficient to develop the proper functions of the force at his disposal. The sergeant and the 16 patrolmen under him, with two clerks, no more than keep abreast of the citizens' complaints, which flood their office. Five more patrolmen are assigned to placarding and enforcement of quarantine, and another five are on duty with the Bureau of Food and Dairy Inspection. Both of these services would be better done by other employees if such were available, than by men brought up with the ordinary police point of view. Nurses are being used more and more for carrying out isolation requirements, and trained food inspectors would be more appropriate for the educational supervision of the food and dairy industries than police. When enforcement, summons or arrest are needed patrolmen can be easily obtained.

Complaints come to the office by wire, mail, by word of mouth and referred from the central complaint bureau of the City Hall. The records of complaints, of action taken and of disposition are simple and adequate. A series studied at the office and in the hands of inspectors showed that entries were made at the time of or on the day of inspection.

The office is open from 8 A. M. to 7:30 P. M., and there are often times when the sergeant, in order to get out into the field, must assign a patrolman of the squad to desk duty. The squad is wholly used in satisfying complaints and enforcement of notices or orders issued. There is no constructive work going on in the office. They have no lists of premises, such as stables, offensive trade factories and other city nuisances, and they have no house files for various lots or premises in the city against which complaints have been lodged. They have no census of private water supplies and only a partial census of privies in the city.

There is no supervision of the field force with the exception of what the sergeant can do in the few hours each day, two or three, when he is free from office duties. There are no meetings held at which instructions or advice is given to the squad. Neither the sergeant nor those under him have had any technical education in sanitation. Various members of the squad find it a stepping stone to the practice of law, for which they study at night school while working for the city.

The Sanitary Bureau cooperates with other city departments directly, in accomplishing abatement of nuisances, in such matters as engineering service, sewage, water supply and street cleaning problems. They cooperate with the Associated Charities and other private agencies, where the difficulty is economic and a poor family cannot comply with orders. There is no spirit or readiness to cooperate with departments of the Ohio state government, and as a result premises, such as licensed lodging houses, are wholly neglected by the Sanitary Bureau.

Although many records were found showing prompt follow-up with action through the City Prosecutor, there were a considerable number in which action to abate serious housing nuisances and violations had been held for three years and more because of expected construction work which would obviate need of further attention, particularly in regard to premises in the "Hill" region. Plenty of cause for action was found in the much neglected region bounded by West 25th Street, Lorain, Trowbridge and Fulton to the river, where open and trough sewers and offensive privies were found and where housing conditions were very bad.

No such thing as a sanitary survey has been attempted. There is no preventive work under way. Simply satisfying citizens' complaints appears to be the objective of the bureau at present, although a few years ago, under a chief, an aggressive and successful attack was made against violations of occupancy regulations.

In studying the work in the field with two of the sanitary patrolmen, both a member of the squad who had been in the work for 12 years and a younger officer who had been on duty for but a few months, showed the best possible side of the bureau work. They were considerate, tactful, quiet, and evidently obtained excellent cooperation through persuasion. They have a good general understanding of their duties and powers and are looked upon as friends and advisers by the people.

They have evidently never been taught what a sanitary privy is and they have no standards of enforcement. All privies were in a shockingly neglected condition, and although orders were placed, many months, and in some instances more than a year, had passed since the issuance of orders and nothing practical had been accomplished. Much harmless advice was given by the patrolmen on the basis of common sense, but their information as to contagious diseases was quite elementary and the calls they were observed to make for this purpose carried no intelligible advice or help to the families.

The most offensive condition found was in the Collinwood region, where a veritable scandal results in the matter of removal of night soil from the privy vaults. The householder is forbidden to excavate or remove vault contents himself. The Park Department is responsible for this service. The householder is expected to pay beforehand at a charge arbitrarily set by the contractor. There is much discrimination and injustice in the charges. Deposits accumulate over six to eight months and service is denied the people except at extravagant rates. The householders being people of small means, chiefly of foreign birth and unorganized, have not made their complaints heard at City Hall. They should not need to, as this is distinctly a service the Division of Health owes them through pressure upon the Park Department.

The tenement house code (March 8, 1915) or so much of it as it is the duty of the Sanitary Bureau to enforce, is very generally ignored in its essential requirements for health protection, and yet a large amount of work appears to have been accomplished. The entire force of twenty-six patrolmen should be assigned to sanitary work proper. The sixteen officers assigned to

the work of the Bureau of Sanitation have each a definite district, consisting of from one to several of the twenty-six wards into which the city is divided.

It is difficult to visualize the actual work of the Bureau on the basis of the annual report, but some idea of the work can be obtained from the following statement: in 1919, 73,859 inspections were made, 7,073 on complaints. Of the latter 86 are noted as wrong addresses and 40 as no cause for complaint. 44,982 is the number of first inspections made by the men on their regular rounds. As a result of the 73,859 inspections, 13,969 notices were served, 11,456 directly by the officer on his rounds and 2,513 mailed from the office. The reinspections totaled 27,393 and the second (third, etc.) notices, 4,506. As a result of the notices sent out interviews were sought by those against whom orders had been issued, to the number of 4,344, of which 3,505 were personal interviews, chiefly with the officer on his rounds but in part interviews in the office. 839 were interviews by telephone.

After two or more reinspections, when orders are not complied with, at the request of the bureau, the police prosecutor issues a letter calling upon the person against whom the order has been served to appear before him. In most instances, instead of the police prosecutor or his assistant seeing these people when they appear in his office they are interviewed by a sanitary officer detailed for this purpose. Ordinarily the party concerned is allowed a few days to comply with the order issued by the bureau. At the expiration of this time the officer again reinspects and re-reinspects. In some instances great delay occurs before the order is complied with, prosecutor's letters being sent at frequent intervals. In 1919 prosecutor's letters numbered 2,708, the party called appearing in all but 492 instances.

Fifty-five warrants were requested during the year. So far as can be ascertained none were issued, no trials were undertaken or convictions secured. 14,525 orders issued were complied with. In addition to such inspections as affected tenement houses and other dwellings we find lodging houses, laundries, picture shows and theaters, workshops, barber shops and taxicabs dealt with.

Forty-five dwellings and tenements were vacated and 86 were razed as unfit for habitation. More than 3,000 interior and exterior repairs and alterations were secured. Lights and ventilation were secured for 322 public halls or rooms and 148 overcrowded rooms vacated. 1,696 rooms were cleaned by tenants.

Twenty-four permits were issued for privies and cesspools, 265 were abandoned and 13 repaired; 139 sewer vaults and sewer crocks were abandoned and 62 repaired. Hopper closets are permitted but not recommended; of these 105 were installed, 288 repaired and 51 removed. Sanitary closets, 742 installed, 601 repaired.

The following activities were also part of the bureau's work: orders for installation of city water, repairs of sinks, etc., 1,699; wells and cisterns condemned, 6; vacant lots cleaned, drained, etc., 901; yards cleaned, drained and graded, 6,654; receptacles ordered for garbage or rubbish, 8,320; sheds

nd barns vacated, cleaned, water-tight flooring provided, sewer connections made, city water installed, etc., 1,481.

It is said that the sanitary inspection of public baths, bathing beaches and summer camps is thorough and entirely creditable to the bureau. The field investigations of the Survey did not include the season of the year when these recreational activities were in operation.

## Bureau of Food and Dairy Inspection

The work of the Bureau of Food and Dairy Inspection is carried on by three graduates in veterinary medicine: one who is chief of the bureau, another who supervises meat inspection in city slaughter houses, and a third who inspects the carcasses of all animals killed in out-of-town slaughter houses and has charge of the work of the bureau with respect to rabies in animals. In addition to the veterinarians there are 25 lay inspectors, one of whom supervises dairy inspection, the others being assigned to the inspection of slaughter houses, cold storage plants, ice cream factories, stores where milk and dairy products are sold, meat markets, etc. The clerical work of the bureau is carried on by a clerk and a typist.

The following is a summary of the work of the Food and Dairy Bureau for the year 1919: total number of dairies visited and scored, 3,986; total number of visits, 4,633; number of dairies excluded, 407. Nearly three-fourths of these exclusions were for the following causes in the order mentioned: not white-washing stable, unsanitary conditions, plank floor in stable. Milk houses not used, milk houses not in proper condition or farms without milk houses, constitute another important reason for exclusion. Of the 407 excluded, 283 were re-admitted. The number of cows in this territory is 43,703, an average of eleven cows per dairy. The dairies are scored by the inspectors annually. The maximum score given was 100, the minimum 52, the average 65.

Special visits were made in 124 instances to investigate changes and alterations, and in 13 instances to investigate contagious diseases. 42 visits to country milk-collecting stations were made during the year and these led to 34 notices to improve conditions.

The work of the bureau which has to do with the milk depots of the city, those places where milk and milk products alone are handled, numbers 11,689 visits. The number of milk depots is 269. In addition, 1,379 visits were made to the 3,000 stores handling milk. There is a total of 3,341 milk depots and stores to which permits were granted. 107 permits were refused. 153 visits were made to investigate changes and alterations and 19 for contagious diseases.

Two hundred and sixty visits were made to 17 milk platforms. Within the past year quite a change has taken place in the shipment of milk into the city. Formerly the greater part of it came in over interurban and steam railroads, and was discharged at loading platforms. During the past winter, trucks, which run straight to the distributor, have been more and more extensively used until now it is estimated that 80 per cent of all milk comes in on trucks. The chief work that is done at the platform is to note unwashed and untagged cans, the taking of the temperature of milk and the collection of samples for examination. Similar samples are taken of the milk on trucks at their entrance to the city or at least before they have discharged their load. 2,205 milk temperatures were taken and 11,950 samples collected. These visits to the platforms and the trucks resulted in the rejection of 1,329 gallons of milk, the most common cause for rejection being the shipment from

cluded dairies. Other causes were: untagged or dirty cans, shipment from known tuberculosis herds and selling without a license.

There are in the city of Cleveland three wholesale ice cream plants, two of which, however, have been consolidated. To other plants which produce ice cream for their own retail trade, totaling about 60, 3,050 visits were made during the year.

There are seven butter factories in the city. To these seven, forty visits of inspection were made.

Four slaughter houses in the city of Cleveland are under inspection by this bureau, and eight are under federal inspection. 35 slaughter houses outside of the city slaughter on definite days and postmortem examinations of all carcasses are made before shipment.

In inspection work before slaughter the following numbers of food animals have come under the eye of the bureau: 135,317 cattle, 942,659 hogs, 59,095 sheep, 115,377 calves. Of these there were rejected: 1,534 cattle more than 50 per cent for tuberculosis, more than 25 per cent for actinomycosis, 471 hogs (nearly 60 per cent for cholera, none for tuberculosis), 359 sheep (emaciation and crippling the most prominent causes, actual disease about 10 per cent), 308 calves (immaturity, emaciation and crippling the most common causes, actual disease less than 15 per cent—3 per cent for tuberculosis).

Meat animals inspected after slaughter: 27,881 cattle, 35,303 hogs, 18,294 sheep, 54,465 calves. Rejections: 143 cattle (more than 67 per cent for tuberculosis), 249 hogs (83 per cent for cholera, 6 per cent for tuberculosis), 203 sheep, 58 calves. In addition to the entire animals condemned before and after slaughter, parts of 2,029 cattle, 2,607 hogs, 1,603 sheep and 142 calves were rejected at the slaughter houses.

The market and commission house confiscation of meat totaled 63,822 pounds. There are approximately 1,150 meat markets in Cleveland. 598 complaints in regard to meat markets were investigated and a total of 7,308 visits to markets made. There are 190 poultry dressing rooms, to which 1,100 visits were made.

At all slaughter houses and most meat markets sausage is made. There are eight, or fewer, factories making sausages exclusively. The visits to sausage factories totaled 501.

Arrests for violating the meat ordinance during the year were 8, arrests for violations of the milk and bottle ordinance 4, summons to prosecutor's office 5. The number who were brought to trial and who were convicted is not stated.

The control of rabies is handled jointly with the Bureau of Communicable Disease but chiefly by the Bureau of Milk and Dairy Inspection. Of 1,000 dogs which were reported in 1919 to have bitten one or more human beings in Cleveland, 110 dogs were actually rabid, as shown by observation, or the finding of Negri bodies, or by both observation and examination. 196 per-

sons were bitten by these dogs and received Pasteur treatment. 39 examinations were made in the laboratory and of these examinations 17, or 43.5 per cent of the total, were positive for rabies. The history of some of the remaining 22 dogs was so suggestive of rabies that treatment was given to the persons bitten.

Forty-three dogs not found, either dead or alive, were considered rabid on their history and the 74 persons bitten by them were treated. In addition to the dogs, four cats were found to be rabid on examination and one was considered to be so on the history. 14 persons were bitten by these cats, 12 by those with known rabies. One rabid horse bit one person, and rats were reported as having bitten two people.

If the animal is found alive it is placed under observation; if killed or found dead, its brain is examined for the presence of Negri bodies. Pasteur treatment is given on the positive diagnosis of rabies on either of the grounds. If the animal cannot be found or the presence of Negri bodies cannot be demonstrated, the circumstances surrounding the biting are considered and the person bitten is given the benefit of the doubt and Pasteur treatment is offered.

The quality of supervision of the slaughtering and sale of meat appears to be excellent, the standards being those of the Federal Bureau of Animal Industry. All slaughter houses must be under federal or city license and inspection systems. The regulations as enforced cover all the usual precautions and requirements.

Slaughter house and food factory inspection is made for the non-federal inspected houses in the city and the 28 outside of the city. About 25 per cent of the city killed meat is slaughtered in other than federal inspected houses. No uninspected meat is permitted for sale in the city.

### MILK CONTROL

The handling of milk control in Cleveland, in spite of the up-to-date regulations, suffers from several radical defects in principle and method which are probably responsible for the high percentage of dangerously polluted milk samples found on the bacterial counts of samples examined at the request of the Survey by the Bureau of Laboratories in February and June, 1920.

The ordinances do not cover the question of sterilization of containers. There is dangerous neglect of this important point in the technic of milk distribution by many dealers. Exclusion of milk supplies is based on the condition of the dairy, and the results of inspection of the premises where milk is handled and pasteurized. The routine use of bacterial counts is not a basis of milk control.

The chief of the bureau agreed that reliance placed upon inspection of dairies, the amount of dirt by the clarifying test, and the standard method of pasteurizing and recording by temperature and duration of exposure, cannot be relied upon to guarantee a safe milk to the consumer as long as unsterilized containers are used, which make the milk unreliable even after

pasteurization. Little attention is paid to bacteriological counts for exclusion of milk.

At present, with the apparently limited force, the division could with advantage gradually change its policy from field inspection to laboratory control of the delivered milk. Milk inspection is carried out in the country within a radius of 200 miles and at the pasteurizing plants outside and inside the city. Chemical tests are made by the inspectors themselves at the Division of Health laboratory. Bacteriological tests are made by the bacteriological laboratory under the director of laboratories.

The following is quoted from field notes made by the investigator for the Survey on accompanying a dairy inspector on his rounds in the country:

"The inspector stated that he covered his old route once a year and that he tried to cover new territory more often. During the winter the inspectors do very little work in the country and in the summer are often called out to do other work. He had 900 dairies last year under his care and will have about 1,200 this year. When he is on the road he sees from 10 to 15 dairies a day. Dairies which make butter do not have to come up to the standard: in fact, he told of several very poor dairies to which he had suggested that they make butter instead of shipping milk. This is certainly a dangerous policy.

There are no bacteriological tests to determine the cleanliness of utensils. No search is made for the cause of a high bacteriological count, where the milk is brought in, with a notice to the inspectors to follow up the high counts.

The score card shows that more emphasis is put on technic than construction. The inspector observed really seemed interested in the cleanliness of the process, although he scored dairies without seeing the process of milking or handling of milk. The inspector was primarily interested in clean utensils and provisions for cooling. The emphasis is evidently correctly placed. The previous score card is not taken with him when he goes to make a second inspection. He carries the facts as to previous conditions in his head."

Firmness and an entirely consistent policy of exclusion for specified defects does not prevail. "Many dairies were using milking machines, which are exceedingly dangerous unless cared for immaculately. Many of the machines seen were dirty. They cannot be sterilized. In one dairy an elaborate sterilizing plant was found with all utensils sterilized, but 12 dirty milking machines."

Tables VII. and VIII. in the Appendix represent the official record of raw (certified) and pasteurized market milk in Cleveland during the past six years.

The following reports were received by the Survey from the bacteriological laboratory of the Division of Health:

March 19, 1920

"Enclosed herewith are the results of the bacteriological examinations of the Cleveland Milk Supply made recently for the Cleveland Hospital Survey.

"From these we have made the following notations: There were 103 samples examined. Of those containing 50,000 or less bacteria colonies per c. c. there were 43, or 41.7%. From 51,000 to 100,000, inclusive, there were nine samples, or 8.7%. Of those



from 100 and 1,000 to 500,000, inclusive, there were 21 samples, or 20.3%. 30 samples, or 29.1% contained over 500,000 colonies per c.c.

"The presence of gas producers in lactose broth was found in 52 samples, or 50.5%. Six of these samples showed the presence of gas formers in all five dilutions and one of these showed the presence in all tests of all dilutions. Five samples showed the presence of gas formers in four of the five dilutions.

"Of the 92 samples examined in triplicate for the presence of spore forming gas producers 36 samples (39%) gave positive results.

Colonies per c.c.	Fermentations				Spore Formers			
	Positive No.	Samples Per Cent	Positive No.	Tests Per Cent	Positive No.	Samples Per Cent	Positive No.	Tests Per Cent
Under 50,000.....	21	50.	75	11.6	12	23.	24	21.6
51,000 to 100,000.....	4	44.4	8	6.	3	33.3	4	19.1
100,000 to 500,000.....	12	57.1	44	14.	5	23.8	9	15.8
Over 500,000.....	16	53.3	99	22.	12	40.	29	33.3

"The methods pursued in the examination of Cleveland Market Milk for the Hospital Survey were as follows:

#### COLLECTION OF SAMPLES

"Samples were collected from the various milk plants, milk wagons and grocery stores by the writer and other laboratory employees. The milk was brought direct to the laboratory in the original package and examined immediately. Owing to the low temperature of the weather the samples were not iced in transit. Although the temperature was not taken, it is safe to say that the milk did not reach a temperature of more than three or four degrees above, and in most cases was several degrees below the temperature at which it was received, by the time plating was begun. Both quart and pint bottles were collected.

#### METHODS OF EXAMINATION

"Agar plates were made, using plain standard agar in triplicate dilutions of 1:100 and 1:1000. Fermentations were made in triplicate in lactose broth in quantities of 10 c.c., 1 c.c., 0.1 c.c., 0.01 c.c. and 0.001 c.c. The plates were counted after 24 hours incubation at 37 degrees C. and the average taken for record. Where the count was high it was recorded as an estimate; for example, 'Over 500,000.' If fermentation occurred, a transplant was made from the fermentation tube (showing gas) to eosin-methylene blue agar, the organism isolated in a pure culture for further study. Fermentations incubated for at least 72 hours.

"Triplicate specimens of 10 c.c. of milk each were placed in test tubes with a few drops of azolitmin solution and heated in the water bath at 80 degrees C. for 30 minutes, and then incubated at 37 degrees C. for 72 hours or until gas production was indicated. It was then transplanted to lactose fermentation tubes and reincubated, as a control on the presence of gas production. These cultures were then plated on plain agar and incubated anaerobically for isolation in pure culture for further examination.

"This covers in general the methods of procedure with the Hospital Survey samples. Some other examinations were originally planned, but either the necessary material and

equipment were not at hand, or other immediate facilities were lacking, so that the work could not be consistently carried out and was therefore discontinued."

A series of samples examined in June were analyzed in a somewhat more detailed manner, as shown in the accompanying report from the same source.

"July 8, 1920.

"Enclosed herewith is a classified report of the bacteriological examination of Cleveland market milk.

"Bacteriological Examination—Counts were made in duplicate on plain agar with dilutions of 1:1000 in sterile tap water incubated at 37 degrees C. for 24 hours. The average of the duplicates was recorded. Fermentation tests for the presence of gas producers was made in dilutions of 1:1000, 1:100, 1:10, 1 and 10 c.c., respectively, in triplicates, using 1% lactose broth Dunham tubes. The figures in the corresponding columns in the report indicate the number of triplicates showing the presence of gas. Triplicate tests for spore bearing gas formers were made by placing 10 c.c. of milk in a 6-inch test tube with a couple of drops of sterile azolitmin solution, and heating in the water bath at 80 degrees C. for at least 30 minutes. These were then incubated at 37 degrees C. for 72 hours or until gas formation was indicated, and then transferred to 1% lactose broth in Dunham tubes. The column "Ana," in the report indicates the number of these showing the presence of gas."

#### CLASSIFICATION OF DEALERS AND RESULTS

At a conference with the four city dairy inspectors who are familiar with the dairy premises and personnel, the dealers were placed in three groups:

Group 1—Dealers whose premises, equipment and methods are of the best, equipped with bottle sterilizers, coolers, automatic filler and capper, etc.

Group 2—Those whose methods may be satisfactory but who are not equipped with the most "up-to-date" apparatus, such as sterilizers, automatic fillers, cappers, etc.

Group 3—Those whose premises, equipment and methods are the cause of more or less dissatisfaction.

Classes—The groups are sub-divided into three classes, according to the bacteriological results.

Class A—Contains those whose bacteria count does not exceed 50,000 colonies per c.c. nor have gas formation in more than 50% of the fermentation tests.

Class B—Includes all that do not belong to Class A, but which do not have a bacteria count of over 500,000 colonies per c.c.

Class C—Includes all with a bacteria count of over 500,000 colonies per c.c.

A classification of the patrons is suggested by indicating the so-called better residence sections by "X," the medium sections by "Y," and the poorer sections, factory districts and congested portions of the city by "Z."

In Table IX. will be found the detailed results of this study.

It is easy to see from the reports that intelligent, consistent, economical and constructive work through bacterial counts of milk is needed to clean up the milk supply by tracing the dirty supplies to their source, by testing the pasteurized product as delivered to the consumer, and then following back to the production point to discover the place and cause of the contamination.

Among the reasons to which the unsatisfactory condition of the milk must be attributed are the holding of pasteurized milk without prompt cooling, in the containers used in the process of pasteurizing before bottling; the use of unsterilized containers for distribution to the consumer; the absence of any prosecution based on bacteriological tests; and the emphasis in prosecution of farmers solely upon the sediment test and butter fat content. The system of milk control does not put any effective check by bacteriological methods upon the cleanliness of the milk before pasteurization. The dealers are prosecuted for failure to meet the requirements in butter fat and sediment test, for use of bottles not their own, for the condition of their premises and for the processes used in pasteurizing and bottling. The milk bottle caps do not show the grade or date or anything except advertising and trade terms, to indicate the quality and age of the milk. An official and uniform text on caps would better protect the consumer.

It is recommended that bacterial count control largely replace the present diffuse and unproductive system of milk and dairy inspection, and that automobile transportation sufficient to save the time of field inspectors be provided.

In this bureau, as elsewhere in the Division of Health, we find workers with sufficient knowledge but hampered by lack of sound policies, and lacking in the educational facilities upon which good preventive health work is usually done.

The staff meets for conference on Saturday mornings to discuss policies and the service. There would seem to be no good reason for keeping this bureau separate from the other food inspection service now carried on under the city chemist.

The chemical laboratory should not have inspectional functions but should be used as a source for facts, upon which records, prosecutions and exclusion of food should be determined.

The personnel of the bureau, except the director, comes from the civil service eligible lists. Applicants have no medical examination, since they are not eligible for any pension fund. They are supposed to pass a mental examination on some of the technical information required in dairy and meat inspection. This eligible list has been eliminated for the past two years as there have been no examinations held by the Civil Service Commission. Inspectors are taken as they come, without examination. They receive for the first year \$1,500 salary; for the second year \$1,650, and for the third year \$1,800; supervising lay inspector \$2,000; the two assistants \$2,400; and the chief \$3,800.

## Bureau of Laboratories

THE work of the Bureau of Laboratories is carried on under the supervision of the Chief of the Bureau, known as the Director of Laboratories, at present a part-time employe, also occupying the chair of bacteriology and hygiene at Western Reserve University Medical School. Two laboratories are maintained, one the bacteriological laboratory for the examination of cultures, smears, blood specimens and pathological specimens for the diagnosis of disease, and the examination of water, milk and other substances for air safety and purity as foods. The second laboratory is a chemical laboratory and is charged with the analysis of food and drugs, the sanitary supervision of stores, restaurants, bake shops and the like.

The ordinance authorizing the bureau provides that the function of the laboratory shall be to assist in the diagnosis of communicable disease, to fix the period of quarantine, to determine the quality of the milk, food and water supply of Cleveland, and to perform such chemical and bacteriological analyses as are related to public welfare.

The functions of the laboratories are similar to those of other municipal health laboratories: *i. e.*, diagnosis, analysis, production, research. The outputs supplied for diagnostic uses are assembled but not manufactured at the laboratory and there are no biological products produced as a routine by the bureau.

The Chief of the Bureau of Laboratories, under the direction of the Commissioner of Health, has charge of all employes of the bureau, assigns their duties and enforces the laws relating to the functions of the bureau.

The bureau supplies outfits for the collection of material from suspected cases of diphtheria, typhoid fever, tuberculosis, rabies, and such other communicable diseases as the Commissioner of Health and the Chief of the Bureau of Communicable Diseases may decide.

No diagnostic services are provided for meningococcus or other organisms causing meningitis or for pathological changes in the spinal fluid. No type terminations are offered for pneumococcus or meningococcus. No tetanus titoxin, antipneumococcus vaccine or antimeningococcus serum are available through the laboratory or any bureau of the Division of Health. Virulence tests for persistent diphtheria carrier organisms are rarely made (in perhaps 10 to 12 cases a year) and then by the lethal test instead of by the more economical and quite as reliable intradermal test in guinea pigs.

The bureau examines and reports on samples of milk and dairy products submitted by the Bureau of Food and Dairy Inspection, and such samples from other sources as may be approved by the Commissioner and the Chief of the Bureau of Laboratories.

The laboratory's activities in milk examinations were as follows:

There were 12,245 milk samples examined; 10,016 shipper's samples and 2,229 dealer's samples. Four per cent of all were below the lactometer

standard; 5.5 per cent below the fat standard; 27.5 per cent below the total solid standard and 19.7 per cent below the standard of cleanliness by the sediment test.

When shipper's samples are found to fall below the legal standards, written notices are sent to the producer calling his attention to these facts. Later, averaging perhaps two months from the time the notice was first sent, an effort is made to secure samples of milk from the same producer to see whether or not the fault complained of has been corrected. This is poor follow-up and leaves too much to chance and the good will of the shipper.

No bacterial counts were made of the shipper's samples of milk, but it is stated that 50 per cent of the dealer's samples had more than 50,000 bacteria to the c. c. (It should be remembered that the milk ordinance specifies 500,000 as the bacterial standard for milk which may be sold in the city of Cleveland.)

The bureau makes chemical and bacteriological examinations of the municipal water supply (including samples from springs in parks) at approved intervals, as well as sanitary examinations of water used by citizens of Cleveland at their homes in the city or country. It also examines from time to time such water as is offered for sale. The bureau makes such chemical, bacteriological and pathological examinations of samples of foods submitted by the Bureau of Food and Dairy Inspection as may be necessary. It makes tests as to the bactericidal efficiency of disinfectants and germicides.

The work of the bacteriological laboratory is carried on by a staff consisting of a director on part-time, and four other persons, two of whom are listed as bacteriologists, one as a physician, the other as serologist. One of the four named above has, under the director of the bureau, general supervision of the laboratory. There are four laboratory assistants, one who cleans glassware, being classified as laborer, one messenger and two typists as clerical assistants.

The following summary of the work of the bacteriological laboratory indicates the types of examinations made and their number in 1919. 45,711 specimens were examined, an increase of more than 50 per cent over the number examined in the previous year. Specimens of sputum, blood for Widal tests and the heads of animals for the diagnosis of rabies, showed a decrease in number. The decided increase in total specimens was due to an 83 per cent increase in throat cultures and the increase in the number of blood specimens sent in for Wassermann tests and of smears for gonococcus. Diphtheria having shown a low incidence in the three years previous to 1919, became more prevalent during that year, and this increased prevalence accounts largely for the increased number of cultures. It is not unlikely, however, that more exposure cultures were taken than has been usual in the past since this procedure was made very extensive whenever diphtheria occurred in schools or institutions. The probable truth of this inference is indicated by the fact that while diagnosis cultures increased 66 per cent, exposure cultures more than doubled in number. There was a diminution in sputum specimens from 3,216 in 1918 to 3,101 in 1919, and from 764 in which the tubercle bacillus was found in 1918, to 630 in 1919.

Increasing interest in venereal disease control may well explain the increased number of examinations for their diagnosis. Wassermann specimens presented for examination increased from 5,807 in 1918 to 8,070 in 1919 and the positive findings from 1,498 to 2,658.

An approximate estimate of the cost per specimen is 33 cents for all diagnostic tests.

The chief criticisms of the laboratory which have been heard relate to the dependability of its reports in laboratory diagnoses and upon the maintenance of the distributing stations of a proper supply of outfits for the collection of material for diagnosis, and of diphtheria antitoxin for use in immunization and treatment of diphtheria patients and those exposed to diphtheria.

In general, according to the judgment of physicians having experience in this matter, it appears that the Wassermann work of the city laboratory is of high character. A similar statement would undoubtedly be made of the morphological differentiation of the pseudo-forms from the true forms of the diphtheria bacillus. In diphtheria particularly it is probably true that a doubtful specimen is rarely passed as positive or negative on the judgment of any one person; it is the rule of the laboratory that such specimens shall always be seen and confirmed by more than one bacteriologist.

#### COLLECTION OF SPECIMENS FOR DIAGNOSIS

The main distributing stations for outfits of all kinds and for diphtheria antitoxin are the police stations of the city; a few of the larger drug stores as well, have these supplies for the convenience of physicians in the downtown office buildings. In each police station a small incubator heated by an electric lamp is to be found, and the physician, after making a culture, is thus enabled to get it promptly under a suitable temperature, so that when taken to the laboratory it is usually ready for immediate examination. Last summer a number of these incubators were out of order for some time through a difficulty experienced in getting the lamps. This difficulty was corrected before the cooler weather set in last fall.

Frequent criticisms are received of the failure to find outfits or antitoxin in these stations and of the bad condition of these outfits. Much, but not all, of this difficulty is avoided when the laboratory has a reliable messenger, but the man who can qualify as such usually soon finds a better paying job and leaves the city's employ. He collects daily from each station and is supposed to assure himself at each visit that an adequate supply of outfits in perfect condition and a sufficient supply of antitoxin are on hand and that the incubator is operating properly.

One cause of the difficulties met in keeping the stations properly supplied is the fact that physicians at times take more outfits or more antitoxin than they need for immediate use, leaving nothing for those who may follow. Further, it is quite certainly known that Cleveland antitoxin is occasionally used for patients who are not residents of Cleveland but of the suburbs.

Twelve of the police precinct stations were visited by our investigator with the collector on one of his routine collecting trips. This collector had been in the service for six months. He has a good Ford car at his disposal and makes a daily trip covering all the police stations, beginning at 6 A. M. and finishing about 10 A. M. Three times a week he also includes the health centers. On Sunday each police precinct is telephoned, and visits are made only where there is material to be collected. In the afternoon his work consists of answering telephone orders, getting supplies from bath houses, ice wagons, etc., and also doing odd jobs around the laboratory. He is supposed to keep the police stations supplied with the following: 4 to 8 diphtheria culture tubes, 6 to 10 sputum bottles, antitoxin in units of 1,000, 5,000 and 10,000, about 4 or 5 each; 6 to 8 Wassermann outfits, Neisser outfits, where there is demand, and Widal outfits.

Each precinct has an electric incubator. Diphtheria cultures are supposed to be kept in this; sputum and Wassermann outside. Sometimes mistakes are made, and occasionally the doors are left open. Supplies in some stations are kept in cupboards which are unlocked. No supplies are kept on ice. It is impossible to ascertain how long supplies are kept without replacement. The collector says that he has instructions to examine the diphtheria culture tubes at least every week and bring in all defective media.

*"Police Precinct No. 2—*No material to be collected. Supplies kept in a locked closet. Material on hand: four diphtheria; ten Widal; three Wassermann; three sputum; four antitoxin, two each 1,000 and 5,000, no 10,000 units.

*"Police Precinct No. 3—*Material collected: two Wassermann, one Neisser, one diphtheria. Material kept in locked closet. Material on hand: four diphtheria; one Wassermann; eleven sputum; seven Widal; antitoxin, no 5,000, two 10,000, four 1,000 units.

*"Police Precinct No. 4—*Material collected: one sputum, one Wassermann, three diphtheria. Material kept in closet without lock. Material on hand: one diphtheria; six antitoxin, two of which were 5,000, four 10,000 and no 1,000 units; three sputum; nine Widal.

*"Police Precinct No. 5—*Material collected: one Wassermann, one diphtheria, one sputum. Supplies kept in closet without a lock. Material on hand: seven diphtheria; seven Wassermann; eight Widal; five sputum; antitoxin, three 5,000, two 1,000 and four 10,000 units.

*"Police Precinct No. 6—*Material collected: two Neisser, one Wassermann, five diphtheria. Material kept in cupboard without a lock. Material on hand: three diphtheria; six Wassermann; three sputum; antitoxin, three 5,000, one 10,000, five 1,000 units.

*"Police Precinct No. 7—*Material collected: none. Supplies kept in safe. Material on hand: eight diphtheria; four Wassermann; five typhoid; antitoxin, five 1,000, no 5,000 or 10,000 units.

*"Police Precinct No. 9—*Material collected: three diphtheria, one sputum? Supplies kept in a closet with no lock. Material on hand: nine diphtheria tubes, two of which were dry; nine antitoxin; nine sputum; eight Widal; twelve Wassermann outfits.

*"Police Precinct No. 10*—Material collected: one sputum, two diphtheria. Supplies kept in locked cupboard. Material on hand: five diphtheria cultures, two of which are dry; thirteen antitoxin; eight Neisser; nine Widal; three Wassermann; two sputum outfits.

*"Police Precinct No. 11*—Material collected: three Wassermann, five diphtheria, three sputum. Supplies kept in closet without lock. Material on hand: one diphtheria; thirteen antitoxin, three 1,000, four 5,000, six 10,000; seven sputum; six Wassermann; five Widal outfits.

*"Police Precinct No. 12*—Nothing to collect. Supplies kept in office in unlocked cupboard. Material on hand: seven diphtheria cultures, two of which were dry; eleven antitoxin; three sputum; one dozen Widal; one dozen Wassermann.

*"Police Precinct No. 13*—Material collected: three diphtheria, six Wassermann, one sputum. Material kept in closet with no lock. Material on hand: no diphtheria; two Wassermann; three sputum; two antitoxin, one each 1,000 and 10,000; three typhoid; one Neisser outfit.

*"Police Precinct No. 14*—Material collected: one sputum, one diphtheria. Supplies kept in a closet without a lock. Material on hand: three diphtheria; five Wassermann, one antitoxin, three 1,000, three 5,000 and four 10,000; three sputum; two Widal outfits.

"The police captains and lieutenants said that they had had a great many complaints because of lack of material and also because the diphtheria culture material was not in good shape.

"There have been a great many recent complaints because the Wassermann outfits do not now include a needle. The collector explained the complaints about lack of material by saying that recently the department shipments of antitoxin and diphtheria culture material had been delayed by freight strikes, etc., and that for some time they had practically no material on hand.

"The collector appeared to be intelligent, alert and interested in his job and could improve the service if not hampered by lack of supplies at the central office."

Ever since it began its work the laboratory has interested itself particularly in the water supply of the city. The amount of chlorine used from day to day is based mainly upon bacteriological examinations of the water and these are now made by the Division of Water under the Department of Public Service. The continuance of the examinations by the bacteriological laboratory constitute, however, a valuable check upon those of the division directly responsible.

As a summary of the results of the examinations of the city water for the year 1919 in the bacteriological laboratory it may be said first, that the raw water shows great pollution; second, that the chlorinated water shows considerable variation, that it is apt to be fairly or entirely free from evidences of pollution in the summer and winter, while in the spring and fall, particularly the former, it shows traces of pollution varying from slight to decided in a month; third, that the blend of filtered chlorinated and unfiltered chlorinated water, as used on the East Side of the city, shows some improvement over the chlorinated water previously in use; fourth, occasional colonies are found in the filtered chlorinated water.



The work of the chemical laboratory under the director of the bureau is performed by a staff consisting of three chemists, one a chief chemist who supervises the work of the bureau and performs some slight services for the medical school in demonstrating points of sanitary interest in the city to medical students; six assistant chemists, six sanitary officers assigned to the laboratory, and two typists. The laboratory has charge of all food, drug and liquor analyses, miscellaneous chemical analyses, the inspection of drug stores and of stores, restaurants and other places where food, except milk or meat, are produced, sold or stored. One out of the seven chemists in this laboratory obtained his position as a result of competitive civil service examination. The last examination was held in 1917.

The Bureau of Food and Dairy Inspection is charged with the control of the milk and meat supply of the city of Cleveland and this responsibility extends from production to delivery to the ultimate consumer. The control of all other food is lodged in the chemical laboratory of the Bureau of Laboratories. Here, again, the bureau is charged with the sanitary supervision of the production, storage and sale of these products. All stores handling food, except those which limit themselves to the sale of milk or meat, and all bakeries, confectionery stores, groceries, restaurants, bottling works and the like are under their supervision. The state permits for restaurants, etc., are issued only after inspection and approval by the city chemist as to methods and equipment.

Much attention has been paid in the past to the sanitary condition of bakeries and by cooperation with the local organizations maintained by bakeries the conditions in the bake-shops have become quite satisfactory. Recently more attention has been paid to the proper distribution of the products of these shops to stores and the care with which they are handled at these places.

The inspection work of the chemical laboratory is performed by sanitary patrolmen assigned to the laboratory. During the year 1918 five sanitary patrolmen and three inspectors were so assigned. The positions of inspectors were abolished in the year 1919 and six patrolmen were assigned to this duty. The total number of inspections are represented by the following figures: inspections, 7,552; reinspections, 7,801; warning letters, 340; summons before the police prosecutor, 382; stores closed, 54; arrests, 15; convictions, 13; and cases pending on appeal by the city, 2.

No case is brought into court unless all other means have been exhausted. Food stores are inspected about six times a year, bakeries and restaurants three to four times a year; candy factories about three times a year; bottling establishments according to season. This laboratory also does work for the State Medical Board for violations of the medical practice act and for the State Board of Pharmacy and for the Engineers Board of the city (who provide one chemist and an assistant for the laboratory) and for the Department of Public Service.

From an inspection of the small restaurants and food stores made by an investigator for the Survey, it is obvious that there are constant violations of ordinary sanitary decency in these places, which could be checked if more

time were spent on actual inspection, and less of the appropriation for this division were used in doing non-health work. The six inspectors, of whom one works always at the railroad terminals, cover the entire city and spend a large part of their time in traveling from place to place in the city. Good administration would suggest that the sanitary inspection force be combined instead of being split into the three groups, so that each patrolman would have a small district within which he would fulfill the functions of sanitary inspector, food and drug inspector and quarantine officer. At present the minimum of actual service in the field for the maximum expense is accomplished.

The Bureau of Laboratories cooperates with other departments of the city government in inspection work of all descriptions, with reference to bacteriological and chemical standards. The bacteriological laboratory makes any examination of milk and meat that comes within its province, for the Bureau of Food and Dairy Inspections. The chemical laboratory does the same, and in addition examines chemically, food products other than milk and meat for their identity and sanitary condition. In the past many samples have been taken from retail stores, but recently much effort has been made to secure samples of food as it enters the city in carload lots or smaller shipments, and to determine its quality before it has left the jobber. The laboratory works in close cooperation with the Bureau of Chemistry of the United States Department of Agriculture in this matter.

As a result of this work in 1919 four warning letters were sent; there were 26 summons to appear before the police prosecutor, 14 arrests, 9 convictions, 4 cases discharged and one case pending on the appeal of the defendant.

One hundred and twenty-nine car lot shipments and \$55 less than car lot shipments were inspected. The confiscations cover such articles as baked goods, baking powder, cereals, candy, fruits, nuts, olives and pickles. A considerable number of fruits and vegetables were ordered sorted.

The inspection of drug stores is a function of the chemical laboratory. A special duty has been placed upon the inspector of drug stores by the narcotic ordinance of the city.

The Division of Health some years ago established close relations with the Druggists' Association of Cleveland and through the cooperation thus attained has been able to secure the voluntary removal of a considerable number of the more objectionable types of patent medicines from the shelves of Cleveland druggists.

Aside from patent medicines and narcotics the laboratory has been especially interested in fraudulent or adulterated preparations and has succeeded in keeping from sale a considerable number and variety of drugs of a type similar to aspirin and phenacetin which were misbranded or adulterated.

### THE "PATENT MEDICINE" IN CLEVELAND

This is a subject that must be approached in a tactful manner because of the large amount of capital invested in the manufacture and sale of these

substances, and likewise because many individuals of more than average intelligence believe in patent medicines and practise self-medication.

It is not true that these remedies are used only by the foreigners and the ignorant. To pass over this subject without mentioning it would be to overlook a very important item affecting public health.

The United States Government report shows about \$90,000,000 to be invested in the production of proprietary remedies. It does not classify these remedies to show which ones are entirely non-secret in nature, stating their entire formula on the label, or in an otherwise public manner. It does not say which ones are based upon preparations whose formulas are incorporated in the United States Pharmacopoeia and National Formulary. It does not say which ones are mainly alcoholic in nature. It does not say which ones are entirely secret in their composition, nor does it say how many may be entirely "rank fakes." A need for such a classification certainly exists. In this enlightened age no one should be permitted to buy any combination of drugs upon the open market labeled merely as a "cure-all."

The discussion of this subject is often avoided by those who should discuss it, for fear of controversy with those interested in the business.

These remedies are manufactured on their own account by large pharmaceutical houses, and are put up under fancy proprietary names, but often carrying the full formula on the label or in accompanying literature. These same houses also have what they call their private formula department where they fill formulae submitted to them by physicians, by combinations of physicians and laity, and by druggists or by people who think they have a formula that is the only specific for a certain disease. These remedies are also made by small concerns who do only a "private formula" business. Again they are made in a small way by druggists or, indeed, contrary to the idea of the statutes, by persons whose knowledge of drugs and medicines is absolutely nil. They are likewise made and offered to the public under coined names that sound to the uninitiated like the names of drugs or chemicals. In this way the public is advised to treat a certain malady by mixing this drug with something well known, such as glycerin, alcohol, etc., and then by using it in a specified manner. These are usually advertised as prescriptions or in answer to letters or supposed letters to the firm asking for medical advice.

#### DISTRIBUTION AND SALE

The non-secret proprietaries are sold by agents of pharmaceutical houses who call directly upon physicians and hospitals. Other non-secret remedies are found in the drug stores and purport to be the "Best Ever" line of remedies, or some similar line, and whose formulae are usually on the bottle or are given directly to the druggist.

Among the secret and semi-secret remedies are those most often advertised. The demand is created entirely by newspaper advertising, or by maga-

ines, periodicals, calendars, almanacs and other literature placed directly in the hands of the public. They are then sold by the druggist or by the mail house.

Others are made and sold by wagon vendors or by house-to-house canvassers who take orders and deliver or sell direct. One method of the house-to-house canvasser is to represent that the profit, or part of it, goes to a hospital for children, thus trying to sell the remedy on a sympathy basis. Many are sold in grocery stores, general stores, restaurants, barber shops and by anyone who can create a volume of sales satisfactory to the manufacturer. The drug store is supposed to sell the major portion of them because it is in a fixed place of business, although it is very doubtful if the drug store handles fifty per cent of the proprietary remedies sold.

The newspaper advertising which creates the demand is the most potent factor in the distribution of these remedies. The manufacturer prefers the names "package remedies," "home remedies," "proprietary remedies," and, of course, abhors the epithets "fake" and "patents."

One feature that must not be overlooked is the form of counter prescribing in some drug stores, happily few of them, where the unsuspecting victim asks for a remedy and has a well known proprietary, such as "Mother's Friend," transferred to a plain bottle and sold for \$10.

The law does not limit the price to be charged, nor does it limit the sale to any set of responsible and trained hands. All the law says is that the label must not claim to cure, nor may it carry false and fraudulent claims nor may the medicine contain certain harmful drugs. The Pure Food and Drugs Act only applies to the above, when these remedies enter interstate commerce.

#### SITUATION IN CLEVELAND

Important steps have been taken to purify the traffic, but these steps have only scratched the surface.

Here the Northern Ohio Druggists' Association has appointed an Advisory Board who, with certain members of the Medical and Pharmacy School faculties, meet from time to time with the city chemist and pass upon the legitimacy of a proprietary remedy in so far as existing law permits action to be taken.

The druggists have also agreed that any new "proprietary" must pass the city chemist as to label and claims before they will stock it. In this way a large number of new preparations have been excluded from the market, many on the market have been removed and many labels and much literature have been revised.

Some little cooperation has been had from newspapers relative to the changing of form of advertisement. It is needless to state that a newspaper always endeavors to protect its advertisers against steps that tend to injure distribution of their wares.

During the past three years there have been about two dozen patent medicines excluded from sale in Cleveland and about three dozen the claims of which have been modified under pressure or threat from this division. Revision of labels is required in many cases. A misbranding order is held as a threat over those who resist demand for toning down their advertisements.

On looking over the files and correspondence on fraudulent patent medicine claims, it was found that the standards of the Bureau of Chemistry at Washington are followed, but that an amazing patience and tolerance is displayed in dealing with mischievous and frankly misleading advertising claims. Correspondence in one flagrant case of misbranding continued for twelve months before any result was obtained. This brings discredit on public law and service. The city chemist has apparently found it necessary to abate his efforts when he finds the newspapers of the city objecting to the reduction of income which the withdrawal of false advertising claims of proprietary remedies incurs.

#### RECOMMENDATIONS

That a committee of physicians, hospital men, druggists, the City Health Commissioner, the City Chemist, the Cleveland Advertising Club, and newspaper men, with a representative from the Chamber of Commerce or other Civic body, study the question of newspaper advertising of medicines to determine if it is essential to the success of the newspaper advertising department; if not, to recommend it be discontinued; if it is, find some manner of furnishing the same space to the newspaper for the advertising of real commodities. It cannot be conceded that any drug should be advertised to the public. The opinion that anyone may select his own treatment of disease after reading an advertisement is only based upon monetary gain, either directly or indirectly, and this factor should be considered secondary in dealing with the protection of public health.

It is recommended that the same committee, or a similar one, take steps to draft such city or state legislation as will place the dispensing of all medicines in the hands of those qualified to do so, and with such safeguards that the unscrupulous ones may be reached; (as, for instance, Regulation 10 of the Sanitary Code of the Village of Athens, New York, which forbids the sale of medicines or medical appliances otherwise than by licensed pharmacists or by physicians, without the approval of the health officer;) or a requirement that all medicines not issued on physician's prescriptions be registered with the names and amounts of physiologically active ingredients, upon which claims of therapeutic results are based, and a copy of all text used in advertising.

It is recommended that if any such ordinance or regulation is passed, it be made applicable at first and enforced only within the city of Cleveland, and later that an attempt be made to have the matter adequately and similarly dealt with under state law.

## Bureau of Vital Statistics

SINCE the whole structure, plan, program, estimate of results and basis for current work, as well as the science of municipal demography depend upon the system and organization of vital statistics, this subject treated in a special manner by an authority in this field, an executive, author and a student of social problems.

### REPORT AND SUGGESTIONS ON CONDITION OF VITAL STATISTICS IN THE DIVISION OF HEALTH, CITY OF CLEVELAND

BY LOUIS I. DUBLIN, PH. D.

Vital statistics, that is, the essential facts, the rates and percentages dealing with population, births, deaths and the incidence of disease, by which the result of work for health protection is measured, upon which plans for improvement as well as sanitary and administrative policies are based or determined, are to all intents and purposes non-existent in the Division of Health of the city of Cleveland.

On April 8, 1920, there was not yet available for the use of the Health Commissioner of the city the crude or general death rate for the year 1919, even the record of the number of deaths from all causes which occurred in Cleveland in 1919.

The birth rate for 1919 was out of the question; for, if any figure was used, it would obviously be unreliable, since non-reporting of births is frequent among the rank and file of physicians and midwives in Cleveland.

In other words, the health authorities of this city have not at hand the most vital facts as to their community. They do not know what effect their work has on the community; in what respects it is effective and in what respects it is not. Except through conjecture, they cannot know the districts and sections of the city in which their work is most necessary and in which it is not quite so necessary. Nor can they estimate the personnel required to do a specific amount of work nor the probable cost of such work. Cleveland is today conducting its health work in a manner typical of American cities twenty years ago. It has apparently not yet learned the obvious lesson that both economy and efficiency require a system of record keeping which will at once permit the development of a scientific health program and at the same time make possible such supervision and control of the service rendered as to indicate its effect and its value.

Such, then, is the present status of this very important branch of the health work of the city of Cleveland. The picture does not well become a city of close to eight hundred thousand people, ranking fifth among the municipalities of America; a city justly priding herself on her vast resources, her unquestioned prosperity; on the variety and extent of her industries; her favorable and healthy location and on the right-mindedness of her officials and her people. Cleveland is rightfully a proud and progressive

In few cities of America does one meet more forward-looking citizens.

But, these citizens, it seems, have not heard of the necessity of applying arithmetic to the problems of their public health, or to those other aspects of municipal government which closely affect the general welfare. It is at this time almost impossible to present a demographic picture of this city.

It must not be supposed from the above that the city of Cleveland is niggardly in providing the means for work so essential to its health activities and general welfare. About \$7,000 is to be spent in 1920 in salaries alone to carry on the vital statistics of the Division of Health. In addition, there is the cost of the equipment of tabulating machinery, of records and files, of furniture and office space. But proper and necessary results are not obtained from this expenditure. There is a registrar at a salary of \$1,750. He is a practising physician whose duties are, as far as could be determined, limited to countersigning birth and death certificates. These duties occupy about an hour a day. A young lady, designated statistician, at a salary of \$1,520, is untrained, but is interested and conscientious. She does what she can undirected. She runs the little division that exists in the department, tabulates the records and has general supervision. But she is completely out of touch with her superiors and has no experience of her own to fall back on. Several other clerks, varying in number from four to eight, prepare transcripts of birth and death certificates, file these and carry out the simple routine required by the law.

Under such direction it is obvious that the \$7,000 provided for the vital statistics work is almost completely wasted. Yet, it is important to recognize what is being done. Certificates of birth and death are received. These are copied for the local files and the originals sent to the State Department of Health. The copies that are kept locally are bound into permanent volumes. An alphabetical index is also made to facilitate finding certificates which are arranged numerically. Gross carelessness in the acceptance of illegal and incomplete birth and death certificates, and errors in names, addresses and dates of copies left in Cleveland files for reference are of frequent occurrence. Occasionally, as implied above, an attempt is made to count certificates and to report to the Health Officer the total number of births and deaths for certain periods; but such effort is always belated. At no point is there any evidence that those who work at this material have the training necessary to do so. The important item of cause of death is, for example, assigned by a clerk whose decisions with reference to joint causes or otherwise complicated statements have no value as to their authenticity or agreement with the rules of practice of the Census Bureau. No effort is made to check the most important fact, the completeness of registration. No list of physicians and midwives is used in this department, although one is available in the office of the Health Commissioner. No tabulations are made of the numbers of reports received from each physician and midwife. No correspondence is had with any one of these when no certificates are received for long periods of time. No check of any kind is carried on to determine whether birth or death certification is complete. Checks that have been made by other agencies (voluntary and official) indicate that the birth registration may be from 60 to 80 per cent complete, the figures varying during recent years.

The following check made by the Survey will serve to gauge to some degree the extent of incompleteness:

The records of 614 children under two years of age who were born in Cleveland were obtained through the Division of Health nurses, and the Young Nurse Association. These records were checked at the Bureau of Vital Statistics and only 388 or 62% were found registered under the same spelling of name, etc. These same cases and 55 others, a total of 443, were re-checked and a search made under every probable spelling and for the records for several months, and 522 or 78% were found registered.

No monthly records of births, deaths, or of cases of reportable disease are made available to the citizens of Cleveland. No bulletins are issued by the Division of Health and, as far as could be ascertained, no printed annual report has been prepared for several years. The city of Cleveland presents a rare opportunity among the larger cities of the country to begin now in fashioning a system for its record keeping.

A system of vital statistics can readily be instituted which shall reflect the results of the reorganized health service. It must be part and parcel of such health service; an integral part of a comprehensive effort to conserve the resources of the city to the utmost.

Such a service will be embraced under three heads:

1. Registration of births, deaths and cases of sickness.
2. Tabulations and reports.
3. Investigation, research and health information.

The first subdivision is basic to all the rest, for without the primary registered facts, tabulations, reports or investigations cannot be made. The law requires that every birth and death in the city shall be reported within ten days. It is the duty of the Registrar to see that this requirement of the law is enforced. The first step in such enforcement is to have a complete list of physicians and midwives available. At regular intervals reports of births should be credited to the certifying physicians and midwives. Those in whom there are no reports or only a very small number should be questioned to determine whether they are negligent in reporting. Reports of births should also be checked against lists of baptisms, newspaper notices and similar sources of information. Records of deaths of infants under one year of age should, as a matter of routine, go through the Registry Room to determine whether they had been previously registered as births. Records of stillbirths should figure equally among births and deaths. The names of the physicians and midwives who are particularly negligent in their duties of registration would soon be available. An effort could then be concentrated upon them to mend their ways. It will be necessary in some cases to prosecute physicians and midwives according to law as a lesson to others that the authorities are determined to make birth registration complete. It will be necessary in this connection to obtain the cooperation of the State Registrar and of the State local prosecuting authorities who share in the responsibility of enforcing the vital statistics law.



Death registration in Cleveland is probably in a satisfactory condition, although no effort has as yet been made to determine the completeness of registration. Physicians uniformly take more seriously the requirements of death registration. It would, nevertheless, be useful at certain intervals if an effort were made to check the list in the registry office with lists of deaths obtained from independent sources, such as hospitals and institutions for the aged and dependent, newspaper lists of decedents, etc. It is conceivable that through these means physicians who neglect occasionally to report a death or who unduly delay their reports will be discovered.

Once received, the certificates of births and deaths must be transcribed, the originals sent to the State Registrar, and the certified copies bound and made available for easy access and future reference. This necessitates the preparation of additional index volumes or card records of births and deaths, arranged alphabetically by name with a corresponding registry number of the original certificates. It goes without saying that such indices and the transcripts themselves should be legibly written and checked as to accuracy. The transcripts must be bound at regular intervals in consecutive order of the file number and placed where they can be easily accessible and safe from mishandling or destruction by fire. At the present time the file room of the Division of Health is in bad condition. It is a general storeroom as well as file room and it is altogether too small and too dark to permit good work to be done. Batches of birth and death certificates are in constant danger of being misplaced under present conditions.

In addition to the registration of births and deaths, the Bureau of Vital Statistics should serve the Bureau of Communicable Diseases of the Division as the repository of the records of cases of communicable disease reported as required by law. While these records are primarily intended for the guidance of the Bureau of Communicable Diseases for administrative health work, it would be economical if the cases were communicated to the Registrar for tabulation to show from week to week, and at other longer intervals, the condition of the city with reference to infectious and other reportable diseases.

It is also recommended that this division cooperate with the Cleveland Hospital Council with a view to recording the number and character of patients receiving care, together with a statement of the diagnosis, and the other basic facts for the sick in each of the several wards or preferably in the sanitary areas of the city. This phase of hospital statistics will be treated in another section of this report and will not, therefore, require further discussion at this point.

The present clerical force is quite adequate to insure the performance of the registration work of the Vital Statistics Bureau. All that is needed is intelligent supervision and leadership. If the registration of communicable disease and hospital cases is desired as an added activity of the division, an addition of one or, at most, two clerks will be necessary.

2. Once the certificates of birth and death are received and the number certified as correct, it is the function of the Registrar to tabulate the result at regular intervals. A weekly report of the number of births and deaths registered should be available. The health officer should receive on Monday of each

a statement from the Registrar covering the number of births and deaths reported during the preceding week. Both births and deaths should be tabulated by sanitary areas and by Health Districts and the numbers compared with those for the corresponding week of the previous year. Deaths should be further subdivided as to broad age periods and by the principal diseases to show the current mortality among infants, and, especially from infectious diseases. At the close of each month a more detailed monthly statement should be prepared and, at the close of the year, a full annual statement should be prepared. A series of tables are given in the appendix which are designed to show the facts required for each year for a city of the size and importance of Cleveland.

The Registrar should also tabulate and report on the cases of sickness in the community so far as records for such cases are available. Under this two important activities may be distinguished:

(A) THE STATISTICS OF INFECTIOUS AND NOTIFIABLE DISEASES.

Under the first head the Registrar will cooperate with the Director of the Bureau of Communicable Diseases. It should be the duty of the Registrar to make pin maps for the cases indicating the incidence of disease by sanitary areas or by Health Districts of the city. He should weekly, monthly, quarterly and annually compile the figures showing the prevalence of the principal diseases for the sanitary areas. He should make comparisons with the incidence of such diseases in previous years and keep the Health Commissioner and the others of the Administrative Staff informed of impending epidemics and of the distribution of cases in the several areas of the city. This work, it is true, is rarely done by registrars in American cities. It is seldom done usually, when at all, by the Director of the Bureau of Communicable Diseases; but the work is essentially statistical and could be more efficiently performed by the Statistical Bureau. There is no statistical method that will produce greater dividends than the careful compilation of statistics of disease, intelligently interpreted with reference to distribution by health districts, sanitary areas or by wards, and by age, color and nativity of the population. When properly correlated with the registration of deaths from these same diseases, it should be possible to prepare tables showing, in addition to the attack or morbidity rate, the lethal or case-fatality rate, which would indicate the severity of the epidemic at any particular time.

(B) HOSPITAL STATISTICS.

Cleveland finds itself exactly in the same position as do all cities in the United States with reference to a knowledge of the work of its hospitals. In no American city of any size is it possible to give the total number of cases admitted to hospitals, both public and private, the diseases for which entrance was sought, the age and sex distribution of the patients, the duration of treatment and the result of the treatment. It is a blemish on the excellent record done by hospitals that this phase of their activities has been left undeveloped almost without exception in the United States. For Cleveland this represents an opportunity. For, should this city organize an effective bureau in its health division under the direction of a competent vital statis-

tician, it would be a relatively simple matter to put into operation a plan which will result in the compilation of just such data with reference to hospitalization in this city. The necessity of such records of hospital care is never questioned; but nowhere have the necessary steps been taken to assure the receipt of the facts. In the matter of organization, it would be necessary only to establish a central office, preferably in the Bureau of Vital Statistics of the city, where uniform reports would be received from each of the hospitals of the city for each case on its discharge. Such a standard form would include such basic items as age of the patient, sex, color, nativity, occupation, duration of residence in Cleveland, address, diagnosis on admission and at discharge, a brief summary of the treatment, duration of the treatment, the date of discharge and condition on discharge; a statement of the social service work done or contemplated would make a valuable addition. It would be necessary only for the hospitals of the city to agree upon a simple blank including such items as these, and to send them as completed to the central record office immediately upon the discharge of the patient. A nomenclature and classification of diseases and of conditions or states of the patients on discharge should also be agreed upon.

In the central office these records would be edited and otherwise prepared for transfer to perforated cards which would then be sorted and tabulated by mechanical devices. At comparatively low cost, it should be possible at the end of each quarter and at the end of the year to have available a series of tables showing for each hospital and for all hospitals combined, the essential facts for the cases discharged during the period.

From the point of view of the city such information would be of the greatest value in indicating the adequacy of hospital care then available and the need for additional hospitals and their location. It is conceivable that hospitals are now improperly placed with reference to the outlying sections of the city. A study of the wards in which patients are located as compared with the location of the hospitals in which they have been cared for, would indicate opportunities for greater service through more effective location of hospital structures. Causes for undue competition between hospitals could be removed through this means. But, more important, will be the effect upon the management of hospitals in the city in standardizing record keeping, in bringing them together for mutual conference to learn why certain types of cases are better cared for in one hospital than in another, why, at any rate, one hospital has a lower lethality rate for certain diseases or surgical conditions than another. Comparisons could also be made between the duration of stay in certain hospitals in treating like cases. The opportunity for constructive criticism is unlimited. Such a plan as this could be operated tactfully with the cooperation of the hospital authorities. The cost for such an activity should very properly be met by the Hospital Council, but the maximum will not be more than a small item for each of the hospitals. The Division of Health would supply only the use of its machinery and the directing care of its statistician. For the city, however, and for the Health Division especially, this will mean that, for the first time, it will have a knowledge of morbidity in the population which is cared for through the agencies of the hospitals. This is certainly an important phase of the health problem of the city. The patients cared for by the

visiting Nurse Association should on discharge be reported in a similar manner to the Bureau of Vital Statistics through the central office of the Association. The nursing service is practically a great extra-mural hospital.

3. The above outline of the work of the Bureau of Vital Statistics is a conservative statement of what such work may profitably include. It will probably be all that an efficient registrar or statistician with a limited staff will be able to undertake during the first few years of his incumbency. It is conceivable, however, that if the Registrar is carefully chosen and is supported by the Health Commissioner and by the private and other official agencies, his department will gradually absorb other work along the lines of investigation and research which it can efficiently perform. Such work would lie directly in the field of public health and social welfare. It should be the duty of the Registrar to conduct statistical investigations into the effectiveness of the various experiments undertaken by the Division of Health, in organizing the health service along district rather than central lines, or determining the efficiency of generalized as against specialized visiting nursing of the sick, or the best method of caring for certain diseases, such as pneumonia and the communicable diseases of children whether in hospitals or at home under proper medical and nursing care.

The Registrar may also well undertake to prepare, in cooperation with other official and semi-private agencies, annually or biennially, a Year-Book for the City of Cleveland in which the chief facts of the population should form the central items. This report would include data covering the city and its sources. The Registrar would, in this sense, be a compiler and editor of materials received from the several heads of divisions of the city administration. From the Commissioner of Streets he will receive annually a statement covering miles of streets now paved and cleaned and otherwise; from the Commissioner of Engineering and Construction and from the Commissioner

of Water, the essential facts concerning those departments; from the judges and District Attorney facts concerning crime; from the school commissioners, facts for the educational system; from the Commissioner of Internal Revenue, located in Cleveland, items related to incomes and the value of manufacturing products. The result would be a Year Book which could reflect the greatest credit upon the city because it would show in narrow compass the true greatness of the community. It would present briefly a summary of the major activities of the population, its resources in men, the value of its products, the source of its revenue. It should be a most valuable reference guide for the administration of the city toward new objects and an expression of the progressive spirit of its citizens.

Such a plan as this looks into the future, but it is not at all chimerical. If it can be accomplished if only the first step be taken; namely, to obtain for the Division of Health a man properly qualified to do the immediate statistical work of that department but with sufficient wisdom and capacity to assure his assumption of larger responsibilities in the future. Everything included above will ultimately reflect favorably upon the health of the people and justifies the inclusion of this scheme under the activities of the Division of Health.

## INTRODUCTION TO CLEVELAND TABLES

Tables X.-XXXVIII. (Appendix) present an outline of a complete system of vital statistics for the health department of a city of the size of Cleveland. It will not be necessary to prepare all these tables each year. The first seven will be valuable, primarily, for census years when detailed and accurate data for the population are available. Other tables have special bearing on certain diseases and conditions and need appear only occasionally as it is desired to arouse interest in them. Much will depend on the facilities, both in funds and personnel, available to the registrar. With generous support he may give a fairly complete presentation of the vital resources and activities of the population from year to year. But with limited support it will be necessary for him to use only those tables which give the more essential facts.

## RECOMMENDATIONS

It is recommended that:

1. A competent statistician be put in charge of the Bureau of Vital Statistics with sufficient support to carry through a comprehensive program of record keeping for the Division of Health.
2. Birth registration, which is now very defective, be made complete. This may be accomplished through the following steps:
  - (a) A complete list of physicians and midwives.
  - (b) A check-back at regular intervals of all births reported to the physicians and midwives reporting them.
  - (c) A follow-up of those physicians doing obstetrical work and of all midwives who do not make any or a small number of reports.
  - (d) A check-back of all infant deaths to the birth registration list, and if no record of birth, the case to be followed up to determine the negligent physician or midwife.
  - (e) The prosecution of persons persistently violating the law.
3. The cooperation of the local and State Medical Society be obtained as a preliminary to subsequent enforcement of the law.
4. Provision be made for the editing, tabulating and analyzing of certificates of death.
5. More care be taken to file birth and death certificates to provide against their loss or misplacement.
6. The Division of Health consider the problem of morbidity statistics and make provision for the study of records of communicable disease, and of hospital and Visiting Nurse Association discharge certificates.
7. Provision be made for such investigation and research work in the Division of Health as will keep the Commissioner informed as to the effectiveness of the various activities of the department and of such experimental work as is undertaken.
8. The Registrar compile a year-book covering the health as well as the social and economic data of the city.

## New Activities Proposed for the Division of Health

EACH of the existing bureaus of the Division of Health is called upon by public demand, by appeal or pressure of private agencies or by the initiative of its own officers and the Commissioner of Health to add here and there a temporary or permanent function or service. This will go on and should go on to the end of time. At the moment there are a few functions which our study and the force of circumstances seem to impose upon the Division of Health. We refer to:

1. Inspection and supervision of sanitation and medical services in institutions where public and private charges are harbored temporarily or for life.
2. Inspection, technical advice and protection, for the industries and commercial establishments of the city, to diminish the hazards to health, in occupations.
3. Medical examination service for the city employees.
4. Public health education.
5. Supervision of and provision for the victims of habit-forming drugs and protection of the public against the illicit introduction of these drugs in trade.

A brief statement on each of these needs follows:

### INSTITUTIONAL INSPECTION

The Griswold Act of the last legislature recognizes the need for institutional inspection as a public health measure, and in Section 1261-31 authorizes frequent inspection of infirmaries, children's homes, workhouses, jails, other charitable, benevolent or penal institutions, including physical examination of the inmates whenever necessary by representatives of health departments. As a safeguard against communicable disease alone, such an activity is justified and sooner or later the Division of Health must deal with this important subject in an organized way. Owing to the nature of the problem most of this work must be done by physicians. By adding to the present number of district physicians a partial inspection of institutions can be begun in much the same way that the division has begun school inspection in parochial schools, through the public health nurse.

Since no information was available as to the sanitary conditions which prevail in institutions or as to medical service, a special study was made of these aspects of the institutional life of children, in cooperation with the investigator of the Welfare Federation who studied the social, economic, educational, recreational and spiritual environment of the institutional children. The results of the combined study have been presented to the superintendents and boards of managers of the various institutions studied, in much the same way in which the reports of the Survey on hospitals were made available directly to hospital trustees and administrators.

The study of the institutions fell under three headings: Child Caring Institutions proper, Boarding Homes for Children, Day Nurseries. Dr. Henry G. McAdam, the chief of the division of institutional inspection of the New York City Department of Health aided by inspectors of the Board of State Charities and physicians of Cleveland engaged to make medical examinations of children, did the field work. The following reports were prepared by Dr. McAdam.

## REPORT ON CHILD CARING INSTITUTIONS IN CLEVELAND

### *Objects*

1. A complete physical examination of at least 15% of the inmates of Child Caring Institutions.
2. A Sanitary Survey of the building or buildings housing these inmates.

So far as was possible the children examined were actually divided among those who had been in the institution only a short time, and those who had been resident for from six months to a number of years. The analysis of these findings is divided according to whether the child's length of stay in the institution was under or over six months.

The children were examined for defects under eleven headings, viz.: (1) Vision, (2) Hearing, (3) Defective Teeth, (4) Defective Nasal Breathing, (5) Hypertrophied Tonsils, (6) Defective Nutrition, (7) Cardiac Disease, (8) Pulmonary Disease, (9) Orthopedic Defects, (10) Nervous Disease, (11) Miscellaneous.

Under the heading, Miscellaneous, the following diseases, defects and conditions found during the examinations were noted:

Enlarged cervical glands	Enlarged Thyroid glands
Enlarged axillary glands	Adenoid facies
Conjunctivitis	Protruding abdomen
Redundant foreskin	Acne
High arch palate	Impetigo
Enuresis	Furunculosis
No Uvula	Scabies
Ringworm	Infection of legs
Infection of back	Infection of right heel
Infection of buttocks	General pallor
Infection behind ear	Pasty complexion
Puffiness under eyes	Chronic Otitis

Representatives of the Board of State Charities, under direction, used the outline that is used in inspection of similar institutions in the City of New York, on which to base their reports.

We were impressed by the number of Homes for Children that had in contemplation new buildings or new locations, or both. Among those where new plans have been perfected, are the following:

1. *Cleveland Protestant Orphan Asylum*—Land has been purchased and plans are ready for a new structure.
2. *Cleveland Christian Orphanage*—It is almost certain that this institution will be in a new building within a year.
3. *Jewish Infant Orphan Asylum*—Property has been purchased and plans completed for removing from the present location to the new quarters within a year.
4. *St. Vincent's Orphan Asylum*—Plans have been perfected and this institution will move into new buildings inside of a year.
5. *Jewish Orphan Asylum*—Plans have been perfected for the new buildings, but it will probably be three years before a change is made. \$25,000 have been expended in necessary alterations of the present place, and contracts for \$25,000 additional expenditures have been passed by the committee in charge of the budget.

The admission procedures followed and the physical condition of the inmates and buildings, varied within very wide limits, and individual reports detail have been prepared for each institution.

Summaries of the examinations of the inmates, of medical service provided for them, and of the results of the sanitary inspections of the nineteen institutions studied, are to be found in Tables XXXIX.-XLI. in the Appendix.

#### *Summary of Medical Service*

1. Only three child-caring institutions out of the total of 19 investigated, provide an entrance physical examination.
2. Only three institutions out of the total of 19 have an admission quarantine to prevent new inmates from bringing contagion into the institution.
3. Eleven institutions have ample isolation facilities, and eight do not.
4. Thirteen institutions have adequate hospital facilities, while six have none, or inadequate facilities.
5. Not a single institution of the 19 investigated conducts periodic physical re-examinations of the inmates.
6. Thirteen of the Homes investigated have Hospital and Dispensary affiliations, while six maintain no relationship of this nature.
7. Children are allowed as visitors in 17 of the institutions investigated. In only two is this prohibited.



There was no way to determine what percentage of the children examined had had corrective work done during their stay in the institution, in as much as none of the institutions conduct re-examinations of the children.

Without records, the value of the work cannot be determined. In some of the institutions visited, information on loose pieces of scrap paper were the only records kept.

Only three Child Caring Institutions give a complete physical examination on admission and keep records of the findings. In one of these (The Detention Home) a trained nurse conducts the examinations. The other two are the Cleveland Christian Orphanage and the Cleveland Protestant Orphan Asylum.

Adequate admission quarantine is of great importance as an administrative feature in Child Caring Institutions. If every child on admission to an institution is placed in quarantine for the incubation periods of contagious diseases, before being allowed to mingle with the other children he or she cannot spread communicable diseases in that institution and the only source of contagion must be from the outside. Furthermore, if children (who are more prone to contract the ordinary contagious diseases than adults) are excluded as visitors to institutions, contagion will be reduced to a minimum.

During our investigation no special effort was devoted to the subject of venereal diseases. We found, however, with reference to penal institutions particularly, that this subject received the attention it deserved. Theoretically, Wassermann tests should be made on all new admission and vaginal smears made of all females. For practical purposes it would probably be sufficient to perform Wassermann tests where indicated by clinical signs or symptoms, and to make vaginal smears in the presence of vaginal discharges.

### RECOMMENDATIONS

1. No child-caring institution should be allowed to operate without a permit.
2. Prior to the issuance of a permit the applicant should show:
  - (a) The necessity for the institution.
  - (b) That there is a proper plant in which to conduct the proposed institution.
  - (c) The financial ability to maintain the institution for which the permit is asked properly in all respects.
  - (d) Capability for efficient management.
3. Permits should be issued only after compliance with certain equipment and service standards which should include the following:
  - (a) Protection against fire hazards.
  - (b) Protection against accidents due to unguarded machinery.
  - (c) Type of building should be fire-proof if in excess of 20 feet in height.
  - (d) No over-crowding. A minimum of 600 cubic feet of air space should be allowed to each child, except when very young infants only are housed, when 300 cubic feet should be allowed for each child.

- (e) Proper heat, light, ventilation, refrigeration and screening of building.
- (f) Adequate toilet and bathing facilities.
- (g) Adequate laundry facilities.
- (h) Adequate isolation and quarantine facilities.
- (i) Provision for regular physical examinations and re-examinations of the children, either by:
  - 1. The attending physician of the institution, or
  - 2. The clinics of the Division of Health, or
  - 3. A special corps of physicians employed by the city.
- 4. Regular and adequate inspection and supervision by the municipal government.

#### BOARDING HOMES FOR CHILDREN

No sanitary survey was made of the boarding homes for children under care of the Humane Society, but 57 "boarded out" children received physical examinations. The results are given in the Appendix, Table XLII. description of the present procedures for the medical supervision of these children follows:\*

"The medical care of children in boarding homes in general is provided by the Division of Health and the Babies' Dispensary as follows: Children under three years of age, when received by the Humane Society are examined at the Babies' Dispensary and are tested for venereal disease and tuberculosis; the children are brought back for re-examination at the time that the dispensary specifies. Medical care for the children is provided at the dispensary as long as the doctors advise. The diet for the children is prescribed at this dispensary as long as the children are brought there. Milk for babies under fifteen months of age is ordered and provided by the dispensary and is free for children whose parents are unable to pay.

"After the children are discharged from the Babies' Dispensary they are taken by the boarding mother to the prophylactic dispensaries of the Division of Health in the district in which the boarding home is located. They are taken to these dispensaries once in two weeks and are cared for by the doctors and nurses in these dispensaries. All medical charts for children are kept at the Babies' Dispensary or at the prophylactic dispensary which the child attends.

"Sick children who are too ill to go to the dispensary are attended by the district physicians. The boarding women are instructed to notify the district doctor of their child's illness in case of such illness. The doctor arranges for the child to go to the hospital if necessary.

"Children over three years of age when received by the society have medical examinations made by the doctors at the prophylactic dispensaries, the examinations being made in the district in which the boarding home is located. Medical treatment for these children is provided at the dispensaries of the various hospitals. If the children are placed in boarding homes outside of the city limits the family physician of the boarding mother

\*This description was prepared for the Survey by the Director of the Cleveland Humane Society.

is generally called. Dental work for these children is done at the Western Reserve University Dental School, the society paying for the material used.

**"Supervision—**The nurses of the Division of Health supervise all boarding homes within the city limits. Each nurse visits weekly the children in boarding homes in her respective district and each week makes a report of her visits to the Division of Health. A copy of this report is sent to the society. The visitors of the society also supervise children in boarding homes. The matters pertaining to the health of the children, however, are left to the nurses and to the dispensaries.

**"Homes—**The children are placed in family homes which have been investigated by the society and licensed by the Division of Health. Applications for licenses are considered by a committee consisting of representatives of the Division of Health and the Humane Society before a recommendation for license is made to the Board of State Charities. It is the policy of the society not to place more than one child in a home unless the children are related. The society has five subsidized homes, having five beds in each home, where children are cared for temporarily while arrangements are being made to place them in other boarding homes. The society has no special homes for the care of convalescent children or diseased children."

### *Suggested Procedure*

All activities relative to the placing out of children in foster homes should radiate from a central institution or place, which we will tentatively call a Children's Placement Bureau of the Division of Health.

Before a child is listed in the Children's Placement Bureau an investigation by the Humane Society should be made to see that the child is one requiring, and suitable for, placement. It having been decided that the child is to be placed out, he is taken to the Children's Placement Bureau, and the parent or legal guardian should sign, at that time, a release, permitting the Placement Bureau to relieve, by proper treatment, physical conditions from which the child may suffer, along the lines indicated below:

Date.....1920.

I hereby agree and consent that if my child,....., while under the control of the Children's Placement Bureau, shall be found to have:

1. Defective Vision,
2. Defective Hearing,
3. Defective Teeth,
4. Defective Nasal Breathing,
5. Hypertrophied Tonsils,
6. Orthopedic Defects,

these defects may be corrected under the direction of the authorities of said Children's Placement Bureau, without further action on my part.

Name.....

Address.....

Relationship.....

The child should be kept under the control of the Placement Bureau either in its own building or buildings or in specially subsidized homes until these defects have been corrected, if it is probable that they can be corrected within a short period, say two to four weeks. If a defect is chronic in nature, the child having the chronic defect should be released to a specially graded foster home, and kept only in such specially graded home until the defect has been corrected. In making recommendation that a child be sent to a specially graded foster home, unsatisfactory condition of the teeth alone should not ordinarily be considered as a chronic defect.

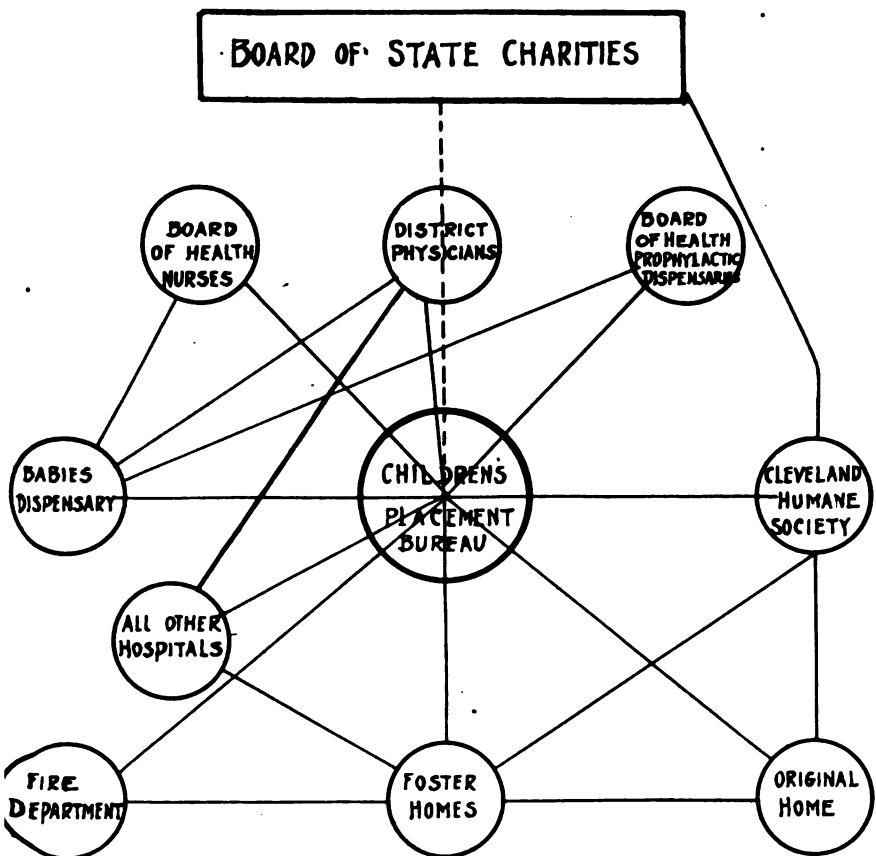


FIG. XIV.

While in the Children's Placement Bureau, in addition to the regular physical examination which may be made at the Babies' Dispensary or other institution, as decided upon by the Children's Placement Bureau, the children should be Schick tested and a culture should be taken from both nose and throat. If the case is suitable, toxin-antitoxin, for immunization, could be given. They should be tested for tuberculosis and Wassermann

test should be made. In the case of females, vaginal smears should be taken. Vaccinations should be done where indicated. No child should be sent to a foster home while defects are being corrected, unless the defects are of a chronic nature.

The foster homes should be graded "A" and "B." The "A" homes should be those conducted by women who have proved themselves to be specially qualified to care for children, and the grade "B" to include all other licensed homes. The foster mothers having grade "A" homes should receive the children with chronic defects, and should be paid a larger compensation than those having grade "B" licenses, in view of the fact that they have superior training, and that a child with a chronic defect is harder to manage, and so the grade "A" foster mother is entitled to a larger sum.

By this method any child with a readily remediable defect would remain in the Placement Bureau until in good general health, and the children with chronic defects would receive special care until their defects, if correctable, are cured. The effect on foster mothers of having two grades of license would be to spur the grade "B" foster mothers on to do good work in order that they might get a grade "A" license, with its increased income, and those who already have a grade "A" license, to exert themselves in order that they may continue to hold that grade.

After the children have been placed in foster homes the Division of Health should supervise the home, and pay particular attention to the sanitary condition of the home and the health of the foster mother and of the children; the Humane Society at the same time making stated visits to supervise the moral and financial conditions surrounding the child in the boarding home.

It should be the aim of the Central Placement Bureau to have as few children as possible in each home. Whenever the number of children in a home exceeds three in number, whether subsidized or not, there should be, in addition to the preliminary investigations made by the Humane Society and the Division of Health, an investigation of the premises made by the Fire Department to determine whether the building is reasonably safe to house the number of children for which a permit is to be issued.

While the children are under the care of the foster mothers, they should be taken from time to time to the Babies' Dispensary or the prophylactic dispensaries of the Division of Health for re-examination, observation, regulation of diet, etc., and when ill and unable to go to the dispensaries should be cared for by the district physician or be sent by him to the appropriate hospital.

A diagram illustrating the contacts between the various services as suggested above follows: Fig. XIV.

#### DAY NURSERIES IN CLEVELAND

There are seven day nurseries in Cleveland, five of which, the Mather, Louise, Lend-a-Hand, Perkins and Wade, are branches of the Cleveland Day Nursery and Free Kindergarten Association; one, Merrick House, is conducted in connection with that Settlement House; and one, Joseph &

iss, is maintained by that industrial plant for the children of its employes. Three of these day nurseries, Louise, Perkins and Wade, are in the same building with kindergartens. Joseph & Feiss are thinking of conducting a kindergarten during the summer, but no definite plans have been made.

The Cleveland Day Nursery and Free Kindergarten Association, which maintains five nurseries, four kindergartens and a Kindergarten Training school, is a voluntary organization included in the Welfare Federation. The association employs an executive secretary, who has charge of administration and who also acts on authority delegated by the Division of Health as an official investigator of day nurseries in Cleveland.

At the instigation of the Day Nursery and Free Kindergarten Association, City Ordinance No. 47591 was passed in October, 1918, to regulate the day nurseries in Cleveland. This ordinance was based upon the ordinances in New York City and Chicago and its provisions for equipment and operation of day nurseries are excellent.

This ordinance makes specifications as to medical service (including initial and periodic physical examinations); plant and equipment; ventilation; light; heat; air space (300 cubic feet per child); playground; cleanliness; methods of cleaning; provision of individual beds; care of children's clothing; provision of individual washcloths, towels, bed linen, combs, tooth brushes, hairbrushes and drinking cups; toilet facilities; isolation; food and care thereof, and sanitation, etc.

All-day nurseries in Cleveland must be licensed and permits are issued by the Commissioner of Assessments and Licenses upon recommendation of the Commissioner of Health, after an investigation of the premises has been made by the Bureau of Child Hygiene. These permits are issued annually.

The Division of Health having no adequate personnel for supervision of day nurseries, delegated the authority for such supervision to the executive secretary of the Day Nursery and Free Kindergarten Association, who, because of the pressure of other duties, has little time to spend in the sanitary supervision of nurseries. Excellent results have been accomplished, however, by the Day Nursery Association in suppressing various "mushroom" nurseries that have sprung up from time to time and which did not meet the standards provided for in the ordinance.

The aggregate attendance at the nurseries for 1919 was 47,085 children, and the average daily attendance of children was 184.75. The number of rejections of applicants for nursery care from August, 1919, to January, 1920, was 131, of which ten only were due to lack of room in the nurseries.

The Day Nursery Association formerly had an investigator to pass on all admissions as to social or economic necessity of providing care for the child. Now admissions are made by the superintendents.

Children who have only one parent, usually a widowed or deserted mother, are admitted to the day nurseries. In rare instances children with no parents are cared for if the father is ill or incapacitated. In some cases

children are admitted when the mother goes to work as well as the father. The age of admission is from six months to fourteen years, nursing children being admitted only on special recommendation of the examining physician. At the time this investigation was made very few nursing children were registered in the nurseries.

If the economic status of the family warrants, a charge of fifty cents per day is made. The estimated cost per day for each child to the Day Nursery Association is about \$1.00.

A study of the admission procedure at the day nurseries and of the economic question involved in providing day nurseries for the care of children of women in industry, will be made by the Welfare Federation in connection with their study of children's institutions.

#### *Medical Service*

The Day Nursery and Free Kindergarten Association employs a physician on part time to give medical service to the five day nurseries under its care. Before being admitted to the nursery, the children receive a physical examination either by the day nursery physician or at a nearby dispensary. The examination consists of the following:

History of—Chickenpox, measles, mumps, scarlet fever, whooping cough, vaccination.

Examination of—Glands, skin, eyes, ears, nose, teeth, throat, tonsils, heart, lungs, abdomen and weight. The examiner gives special attention to the nutrition and development of the child, and looks for any evidences of anemia.

This examination is made with the children's clothes loosened or removed.

No laboratory tests are made at the day nurseries, but any such necessary work is referred to the various dispensaries or to the Division of Health. No diphtheria culture tubes are kept at the nurseries, the physician having a supply of these with him when calling at the nurseries.

Each superintendent interviewed stated that there was a daily inspection of the children on admission, either by herself or by a nurse, for symptoms of contagious disease.

The last sentence of regulation 21, "each child admitted to or cared for in any day nursery shall be examined at least once every three months," did not seem to be thoroughly understood or adequately carried out by the day nurseries. No superintendent interviewed stated that there was a periodical re-examination of children every three months, and a number of cards of children who had been in the nurseries four months and over, did not show any record of re-examinations. Children who have been absent from the nursery for a week or more are examined either by the nursery physician or at a nearby dispensary before readmission.

The children in the nurseries are weighed either every two weeks or every month, the procedure varying in the different nurseries. Excellent height charts are kept. Opposite each child's name a star is placed, a blue indicating loss or stationary weight, and a red star a gain. These charts are proved of great educational value to both mothers and children.

Two of the nurseries have trained nurses as superintendents. For nursery service the other nurseries can avail themselves of the service of the nurses of the Division of Health or of the Visiting Nurse Association, but the superintendents do not seem to be taking advantage of these opportunities fully as could be desired.

The follow-up to correct defects is carried on under the direction of the superintendents. A study of the records of the five day nurseries under the control of the association gives the following results: of 197 children who have been under the care of the day nurseries over four months, there were 10 cases of defective vision, three of which had been corrected and one of which was under parental care. There were eighty cases of defective teeth, of which fifty-two, or 65 per cent, of the corrections had been made. Besides these corrections one case was under parental care and three were over school age. Sixty-six cases of diseased or hypertrophied tonsils were noted, of which forty-one, or 62.1 per cent, had been corrected. Also there were 10 under parental care, one "unwilling" and one "improved." According to these figures which were furnished by the Day Nursery Association, the follow-up work of the nurseries seems to be adequate.

Vaccinations are made by the nursery physician on all children who have not been vaccinated.

#### ***Merrick House:***

The medical service at Merrick House is practically the same as that furnished to the nurseries under the Day Nursery Association, with the exception that the physician visits twice a week.

#### ***Wap & Feiss:***

The medical service is given by the physician in charge of the factory, who is on call at any time and who always responds quickly. According to facts furnished by the superintendent, the service given comes up to the standards of the ordinance. The children are examined on admission, re-examined after absence, etc. The superintendent of the nursery is a trained nurse.



**SUMMARY OF CONDITIONS FOUND IN THE SEVEN NURSERIES BY THE  
INVESTIGATOR**

	Number of Nurseries
Sleeping room not provided with the minimum cubic air capacity required by the city ordinance.....	2
Children sleeping together.....	1
Drinking cups used in common.....	4
Combs used in common or incompletely sterilized after use.....	5
No ventilation in room in which children were playing.....	2
Poor ventilation of toilets.....	2
Dry dusting and sweeping done.....	4
Clothing hung too closely to permit of clothing ventilation.....	2
Wash cloths, towels and tooth brushes hung so closely that in some in- stances they touched.....	4
Beds not identified.....	2
Aprons not identified.....	1
Bibs not identified and piled together after each use.....	1
Rubber sheets not provided for all beds of infants.....	1

**RECOMMENDATIONS**

**1. Supervision:**

That the responsibility for the enforcement of the requirements of the day nursery ordinance be assumed by the Division of Health, and inspection of the day nurseries be made by a trained inspector under the Bureau of Child Hygiene in the Division of Health.

That monthly inspections of the day nurseries be made.

That the provisions of the city ordinance in regard to individual beds, isolation rooms, adequate ventilation and air space and other necessities for satisfactory sanitation in the day nurseries, which are violated at the present time, be observed and enforced.

**2. Medical and Nursing Service:**

That the regulation which has produced good results in other cities and which requires a vaginal smear of all girls before admission, might be found of value in giving additional protection against infection.

That there be an increase of the home nursing service given to the children attending the day nurseries and that, for this service, the day nurseries call upon the Division of Health or the Visiting Nurse Association nurses in the district.

**3. General:**

That a further study into the admission procedure and organization of day nurseries be made by the Welfare Federation in connection with their study of children's institutions. In this investigation special attention should be given to the economic question involved in providing day nursery care for the children of women in industry.

From the numerous defects of equipment and management and professional services covered, among the institutions, homes and nurseries above described, and from the serious extent, to which physical defects prevail among the dependent children examined would appear plain that all precautions for these otherwise helpless public wards are not being taken for their present and future health.

It is recommended that institutional inspection be recognized as a legitimate activity of the Division of Health and that an organization adequate to look after the institutions and homes for children be created there.

### INDUSTRIAL HYGIENE

Although the complete argument for better protection of industrial workers, based on an extensive study of the existing conditions in industry in Cleveland, will be found in Part VII. of this report it is worth noting here at whatever may be done voluntarily and in response to the human and economic interests of individual employers and corporations, there will rely be industries and individual plants where only so much is done for the health and sanitary safety of the employes as labor organizations and officers of public departments force the employers to do. Even in the brief period of the Survey a number of instances of flagrant violation of human health rights in Cleveland industries came to notice, which could not have been averted and should not have developed at all if it were known that capable inspection and swift action were ready for the protection of employes.

Not only are the employes but the employers entitled to the kind of guidance which those trained in the science of industrial hygiene can give them, in the manner of using human labor so that undue risks and permanent health liability may not be incurred.

It is recommended that a bureau or sub-division of an existing bureau be established to detect and correct health hazards in industry. If there were a trained sanitarian at the head of the bureau of sanitation, industrial hygiene might at first be included there, but it is believed that a separate bureau for this purpose should be created with a chief trained in the investigation and remedy of injurious processes and conditions affecting industrial employes.

### MEDICAL EXAMINATION FOR CITY EMPLOYEES

The city of Cleveland employs more people than any organization of industry or commerce within the city or near it. The city payroll varies from 6,500 in winter to 8,000 in summer. This varied personnel is entirely without any organized medical service. In a few departments physical examination may or may not be offered or required at the time of employment, but most of the city employes enter public service without any medical observation as to fitness for their work. In a few departments medical care is available in case of sickness. In no department is there an annual medical survey and examination of each employee.

From records of many thousands of examinations throughout this country we can prophesy that from 130 to 160 (*i. e.*, 2%) of the city employes

have active pulmonary tuberculosis and that most of them are unaware of it until too late; from 4,850 to 6,000 (*i. e.*, 75%) are in need of medical or dental advice or treatment for serious or minor defects and diseases, most of which (64%) could be prevented or permanent damage avoided by early recognition.

It is recommended that:

The Division of Health be authorized to employ physicians and organize a service for the medical examination of all applicants or appointees to positions in the city service and for an annual re-examination of every one on the city payroll from the mayor down.

Provision be made for the privacy of records.

Treatment for defects be not undertaken at present as a charge upon the taxpayer.

If there were to be one service established by the city in the interest of health protection it is believed that that should be free diagnostic service: that is, medical examination of the apparently healthy of all ages and conditions of the people. Prevention of disease depends on its recognition. Medical practice for treatment of diseases alone will never meet the needs. What we need in the interest of public welfare is a universal habit of applying once a year to a physician so that he may serve his most important function; namely, match his diagnostic skill against the insidious evidences of impaired structure and function in man. The administration and provision of medical services by the city, free to all who can be taught to apply, would be the best health investment the city could make and nothing would so stimulate physicians to the best they are capable of.

Private patients should now establish the practice of calling in their family physician for a health examination annually, and should learn from him what they may expect or what they must do to preserve or attain health. For infants and school children such services are developing but are not yet complete. For industries such services are becoming the rule. The custom should become universal.

## PUBLIC HEALTH EDUCATION

At the beginning of the chapter on Public Health Services reference is made to the unfortunate lack of such a necessary public service as was evidently conceived by the framers of the city charter when they provided for a Commissioner of Research and Publicity within the Department of Public Welfare.

In order to picture more concretely the present assets of Cleveland in this field a brief report of existing health education resources in Cleveland has been prepared.

It would be difficult, indeed, to make a comprehensive summary of public health education in Cleveland for, undoubtedly, all social agencies and agents strive—whenever an opening is presented—to inform their beneficiaries in regard to health rules and their observance. Only the principal channels through which this kind of education is directed will be mentioned.

The primary sources of health information are, of course, the practitioners of medicine and the nurses who see all classes of people and all types of disease.

Of the private agencies those which offer nursing service probably have the best chance of bringing home, with telling effect, their lessons in health education. The contacts of the nurses from the Visiting Nurse Association and the University District are with families where there is sickness and their opportunities for instruction along health lines are only limited by the number of cases under their care. Nurses of the prenatal stations of Maternity Hospital and the nurses of the Babies' Dispensary and Hospital carry the "word" on special health topics (hygiene of pregnancy and care of the sick child) to mothers and prospective mothers. During the summer months the field of influence of the Babies' Dispensary and Hospital is considerably widened by the operation of the Babies' Special. This is an automobile clinic which tours the outlying districts and rural communities of the county. The doctor and nurse in attendance give demonstrations and advice upon the care of the babies.

The social service workers at the hospitals (Charity, Lakeside and Mount Sinai) and the field agents of the Associated Charities are also important actors in the attempt to make the knowledge of health principles universal. Whenever the Associated Charities' visitors find a health problem in a home they make every effort to cooperate with the nurses of the Visiting Nurse Association or of the Health Centers in promoting good health standards and in following up medical care. These agents also act as distributors of health literature when it is provided by the Division of Health.

A private agency which is bringing the message of health to large numbers of women and girls is the Red Cross. Through the Teaching Center, courses in prophylaxis, home care of the sick and first aid to the injured, are offered. Courses, consisting of 17 to 20 talks with demonstrations, are given by the nurses at the Center and in factories, schools, settlements, department stores and churches.

The Anti-Tuberculosis League, in trying to increase the knowledge of anti-tuberculosis measures, assists by its literature and lectures in spreading the gospel of good health.

The clubs at the settlement houses (Alta House, Council Educational Alliance and Goodrich House) and at the Y. M. C. A. offer an opportunity for instructing young men and women in social hygiene and tuberculosis prevention. At the Y. M. C. A. it is estimated that 1,000 men are reached this way each month. At the Central Friendly Inn and the Y. W. C. A. health and home hygiene courses are arranged to supplement the domestic science courses. Hiram House last fall, in its Boys' Department, had a "Health Week" and carried on, through lectures, demonstrations and literature, a health campaign. The Boy Scouts, the Girl Scouts and the Campfire Girls, by a system of awards, put a premium on good health.

The public agencies interested in educating the masses along health lines are the Division of Health, the Board of Education and the Public Library.

This work is done by the Division of Health through the doctors and nurses at the Health Centers and through the nurses in the homes. Instruction and advice are given on how to keep well babies well, on tuberculosis control and on care and prevention of contagious diseases.

At the present time health education is carried on under the Board of Education in the following ways:

1. Through occasional classroom talks on health topics given by nurses of the Department of School Medical Inspection.
2. Through individual instruction of the children in the schools by physicians and nurses of the Department of School Medical Inspection.
3. Through instruction by the nurses to girls in the seventh and eighth grades, on the subject of care of babies.
4. Through two forty-minute periods a week in physiology and hygiene in the grammar grades.
5. Through physical training in the high schools and elective courses in physiology, botany, cooking, chemistry and social problems.

In practice little or no work in hygiene is carried out in the elementary schools. In the Junior High grades an outline has been provided but the teachers are not obliged to follow it. In the high schools the courses in health education are not standardized and it is difficult to tell how much overlapping of courses exists. There is need for a standardized syllabus.

The Public Library, through its Information Bureau, suggests books to be consulted for light on health matters.

From this resume it is evident that health education is carried on quite extensively in Cleveland, but there is need for an organized and intensive health program. The Survey is entirely in sympathy with the views of the International Red Cross, as expressed at the Cannes conference in 1919.

"We are convinced of the prime importance of widely disseminating among the people a knowledge of the simple laws of healthful living and a conviction as to the need of applying them. This is the most valuable means whereby we can promote their physical well-being; and, with a 'health conscience' formed, most public health problems become simplified and all public health administration is made more easy.

"It may be said that the measure of the public health of any community is in no small degree the measure of self-help in health matters. Official and voluntary health agencies can effect much in the direction of improving the environment of the individual and preventing communicable diseases; relatively they can effect little in the direction of securing hygienic observances in the intimate circumstances of living, and in the wider field of non-communicable but preventable disease. Ignorance and carelessness are here responsible for much sickness and premature death.

"It is largely because child welfare work is essentially educational that so much success is obtained in it; and we consider that, profiting from this experience, public education should be made a prominent part of public health activities in every field of work.

"Hygienic precepts and practice, and the training of the older girls in the essentials of infant care and home-making are of fundamental importance as a means of contributing greatly to the health and happiness of a community. For those who have left school an active educational propaganda should be maintained. For popular propaganda purposes we would indicate the following as agencies of proved value:

1. The Public Press.
2. Cinema Films.
3. Posters.
4. Exhibits.
5. Popular Lectures.
6. Educational campaigns on special health topics in which all these agencies are employed.

"We consider that for most effective propaganda assistance is generally necessary from experts in publicity matters."

#### RECOMMENDATIONS

1. It is recommended that the Board of Education organize consistent education in health through the entire school course of the child. The board should accept the services of the Red Cross Teaching Center to carry on this work until such time as appropriations can be made for the purpose.

2. It is recommended that there be a bureau of public health education in the Division of Health, with a full-time publicity expert in charge, to carry on the activities outlined above and to coordinate all efforts of the various private agencies, or that a full-time publicity expert be employed by the proposed Public Health Association or by the Anti-Tuberculosis League.

#### CONTROL OF DRUG ADDICTION

Medical service and correctional interests are so involved in the control and care of drug addicts that there must be effective cooperation between the Division of Health and the Police Department in handling the matter.

The city police must assist the federal revenue officers in blocking the legal channels of distribution of the narcotic drugs and in confining the supply and distribution of the drugs to the hands of licensed pharmacists, physicians, veterinarians and dentists.

The Division of Health must take part in the supervision of the addicts until they are cured or are accommodated in institutions where they can be freed from their affliction and rehabilitated physically.

Dispensary and ambulatory care for drug addicts are futile. These patients must be put in institutions where their insane ingenuity cannot avail them in obtaining drugs for the continuance of their habit.

To quote from a statement of the Commissioner of Health:

"City ordinance No. 48247-B places the administration of narcotic drugs in Cleveland as well as the presenting, bartering, selling or giving of such drugs under the control of the Health Division. The enforcement of this ordinance in detail would require the following organization:

- 1 Chief Inspector,
- 2 Inspectors,
- 1 Clerk,
- 1 Physician.

"The work of the inspectors would require a continuous inspection of the records and stock of narcotic drugs in the possession of those authorized to deal in the same: namely, wholesale and retail drug houses, hospitals, physicians, dentists and veterinarians. A physician is required to deal with those drug addicts who continually infest the city. Since 1918 the clinic in the City Hall has been maintained in charge of one of the district physicians assigned to the sub-division of Communicable Disease. This clinic is financially self-sustaining, as all addicts are required to pay for their treatment while in attendance upon the clinic. However, the necessity of assigning to this work one or more full-time employes of the Health Division has not yet been offset by increasing the number of employes allowed the Division under the existing salary resolution. It should be stated that no request for additional employes to deal with the addict problem has heretofore been made. The city ordinance referred to above was only passed in April, 1919, and until then the handling of this problem by the Health Division had been considered as a temporary matter, only to require the services of employes for a short period. The outlook is now entirely different, and a permanent organization to have charge of the enforcement of ordinance No. 48247-B should be set up."

The recommendation of the Commissioner of Health in this matter is heartily endorsed. If all the additions and improvements of service recommended in the foregoing consideration of bureaus existing and proposed in the Division of Health were approved and appropriations made, Cleveland would not be spending more per capita per annum than many cities in the country now consider reasonable for public health services.

### HEALTH CENTERS

Centralized control and distributed services permit of sound public health organization, and the principle of health centers upon which the bureaus of child hygiene and communicable diseases depend for their district work is good. The health centers, as at present operated, are little more than district offices.

It is recommended that these centers be increased to sixteen, to permit of one for each 50,000 of the population and that as rapidly as is found practicable other functions be added to those now served at the centers. Until health centers serving as administrative branch offices of public departments include as well all the services or representatives of them which are now contributed by private agencies in the interest of preventive medicine, and are operated in intimate organic, if not physical, connection with hospitals and dispensaries, they will not have met their obligations and possibilities of public usefulness.

### PUBLIC SCHOOL MEDICAL SERVICE

The Board of Education administers through school education and its medical services to children, public health services of inestimable value. A complete description of this division of public service will be found in Part III.

### THE CORONER SYSTEM

The coroner system is in a way a kind of public health service, as in its conception it is created to protect life by determining accurately the causes and conditions which have brought about sudden, violent or unexplained deaths, especially when the deceased had not been under the recent care of a physician.

As long as a coroner is elected or appointed in payment of party political debts, and as long as the coroner selects his medical examiner or assistant more with a view to political availability than as a recognition of his merit, skill and experience in pathology and forensic medicine, our cities, and among them Cleveland, will continue to be ill served in this respect.

Opportunity for "graft" is always present, and offering powerful temptations to avoid thorough search into causes of death. The coroner's physician is practically powerless to protect the public against crime. There is every opportunity under the present system to cover up crime and miss important causes of preventable deaths.

There is nothing to be said in favor of the coroner, his office, his medical functions or the value of his mediaeval and hollow legal functions.

Boston and New York have solved the difficulty in the only reasonable way, by abolishing the office and creating the civil service appointive office of medical examiner. The results have been a striking improvement in the matter of honesty, scientific accuracy and in the field of health protection. Cleveland could not do better than follow their example.

It is so recommended.





## Private Health Agencies

**[**THE extent of private endeavor in the field of preventive medicine is hardly appreciated until the whole range of unofficial agencies is presented. We shall not consider here the activities of the national volunteer health agencies even though they may contribute a definite share to the work in their respective fields in Cleveland, but confine the following brief summary to local organizations:

### THE ANTI-TUBERCULOSIS LEAGUE

For a description of the activities of the Cleveland Anti-Tuberculosis League the reader is referred to Part IV., where its accomplishments and commendations for further extension of its admirable work are presented some length.

### THE VISITING NURSE ASSOCIATION

For a consideration of the work of the Visiting Nurse Association, one of Cleveland's remarkable public health assets, the reader is referred to Part V., where the extensive project of prenatal and maternity nursing care is proposed as a new undertaking for this association.

### THE DAY NURSERY AND FREE KINDERGARTEN ASSOCIATION

A description of the functions of the Day Nursery and Free Kindergarten Association will be found in the report on this and other child-caring organization in this part of the report.

### THE ASSOCIATION FOR THE CRIPPLED AND DISABLED

The affiliation of all the agencies dealing with the medical and social problems of the cripple, in the Association for the Crippled and Disabled has brought large benefits to these handicapped people, little and big, and this association is certain to play a part of increasing importance in the future program for preventive and curative orthopedics in Cleveland. This is dealt with in detail in the chapter devoted to the Care of Cripples in this report.

### THE CLEVELAND HOSPITAL COUNCIL

The Hospital Council, in which originated the idea of the present Survey, has a record of important contributions to local and national hospital standards, economies and organization. It is described in Part X.

### THE CLEVELAND SOCIETY FOR THE BLIND

The Cleveland Society for the Blind has been active for many years and carries on its books the records of 545 people not in institutions who are known to be either totally blind or to be suffering from such a loss of sight as to make them dependent on others for care or support. This list includes all ages and both sexes.

Of the 545 blind people, the cause of blindness comes within the list of Preventable Diseases, Injuries or Infections in 306 instances as follows:

## PREVENTABLE CAUSES

<b>Communicable:</b>		<b>Injuries:</b>	
Syphilis.....	40	Industrial.....	21
Gonorrheal ophthalmia.....	32	Non-Industrial.....	46
Trachoma.....	16		67
Scarlet fever.....	13	<b>Miscellaneous:</b>	
Measles.....	12	Iridocyclitis.....	12
Meningitis.....	9	Choroiditis.....	15
Tuberculosis.....	3	Keratitis, interstitial.....	4
Smallpox.....	4	Corneal opacity.....	12
Diphtheria.....	2	Optic atrophy.....	51
Poliomyelitis.....	2	Vitreous hemorrhage.....	1
Ophthalmia (undetermined infection)....	6	Irregular astigmatism.....	1
Communicable.....	139	Strabismus.....	1
Injuries.....	67	Diabetes.....	2
Miscellaneous.....	100	Nephritis.....	1
Total.....	306		100

The blindness of the other 239 instances was due to causes which are considered non-preventable, as follows:

<b>Curable:</b>		<b>Not Sufficient Diagnosis:</b>	
Cataract.....	111	Congenital.....	55
Congenital cataract.....	10	Sunstroke.....	2
	121	Insane.....	1
<b>Miscellaneous:</b>		Eye strain.....	1
Detached retina.....	1	Nervous prostration.....	2
Orbital tumor.....	1	Chorea.....	1
Sarcoma.....	2		62
Ptosis.....	1	Curable.....	121
Retinitis Pigmentosa.....	9	Miscellaneous.....	56
Glaucoma.....	28	Not sufficient diagnosis.....	62
High Myopia.....	11		239
Optic atrophy (brain tumor).....	3	Total.....	239
	56		

Diagnosis as to the cause of blindness was not obtained for 16 inmates at Warrensville Infirmary and 10 inmates of a Home maintained by the Little Sisters of the Poor.

According to the very careful survey recently made by the Massachusetts Commission for the Blind, there are probably in any general population in the eastern industrial communities one blind person for each 1,000 people. This would lead one to expect a total of a little less than 800 in Cleveland, including those in institutions. Cleveland shares the experience of Massa-

assets in that a constantly decreasing number of the blind are found in the group under five years, as a result of intensive campaigns to prevent and cure babies' sore eyes.

In a city drawing its population so widely from both native and foreign groups and tempting labor from parts of our Southern states where trachoma is prevalent, and recalling the fact that in Ohio in one county (Ross) at least 50% of all school children were found recently to be affected with trachoma, adequate provision for control of this disease and prevention or correction of the damage done by it among children and adults, must be made by the Board of Education, the Division of Health and by the clinics and hospitals in the city.

The field of prevention of diseases of the eye is not entirely filled by the activities or program of the Society for the Blind and it is recommended that they adopt a more aggressive policy so that the broad field of education and instruction and supervision proposed by the National Committee for the Prevention of Blindness may be well cultivated.

It is suggested that the society enlist more active interest among the specialists in this field, in private practice and in industry.

There has been prepared for the Survey, through the courtesy of the National Committee for the Prevention of Blindness a program covering all aspects of this subject suitable for adoption by the local society. This includes a number of subjects:

(a) A list of desirable laws to insure the saving of sight, most of the items of which are covered by laws in force in Cleveland.

#### MODEL LEGISLATION FOR SAVING SIGHT

1. Law, or Regulation of the Division of Health, requiring the use of a prophylactic in the eyes of the new born.
2. Law, or Regulation of the Division of Health, making ophthalmia neonatorum a reportable disease, giving definition of what may constitute this disease so that no loophole will be left for difference in diagnoses.
3. Law, or Regulation of the Division of Health, covering the training, examination, licensing, regulation and supervision of midwives.
4. Vital Statistics Law requiring notification of births within 48 hours.
5. Law prohibiting the use of the roller or common towel in public places.
6. Law making trachoma a reportable disease.
7. Law regulating the sale and control of wood and denatured alcohol.
8. Law making wood alcohol poisoning a reportable disease.
9. Law making venereal diseases reportable and providing for the quarantine or compulsory treatment of those capable of spreading infection from these diseases.

10. Law regulating the projection of moving pictures and the lighting and ventilation of moving picture theatres and prohibiting the use of "rainy" or worn-out films.

11. Law appropriating a minimum of \$250 a year for each child requiring the benefits of a conservation of vision class.

12. Law providing for the examination by an eye expert of all inmates of penal and charitable institutions.

(b) Suggestions for the better training of physicians, dentists and nurses in sight saving.

(c) An extensive program for maternal and child care from prenatal to employment age. This does not differ materially from the recommendations given under Child Hygiene in Part III.

(d) Proposed use of eye, general and venereal disease clinics for saving the sight of the adult population. This is dealt with in Part X. under the discussion of the dispensary needs of Cleveland.

(e) A model plan for saving sight in industry which gives detailed recommendations under the following headings:

1. Lighting conditions, natural and artificial.
2. Protection against industrial poisons affecting the sight.
3. Adoption of the safe methods for the handling of acids.
4. Routine examination of tools, especially of those likely to become "mushroomed" or "burred."
5. Routine examination of machinery and safety devices.
6. Examination of the eyes of workers before entering industrial occupations.
7. Care in the placement of one-eyed workers.
8. Arrangements for adequate first aid for removing foreign substances from the eye, and for treatment of eye injuries, especially of caustic and acid burns.
9. Education of workers in the use of safety devices and methods and in preventing accidents to themselves and others.

#### THE ASSOCIATED CHARITIES

The Associated Charities is properly included among the health agencies, since social reconstruction, the holding together and supporting of family groups by tactful and timely aid and well considered advice, plays as great a part as medical services in relieving anxiety and reestablishing household morale.

During the past year the Associated Charities, operating from ten stations, aided 3,676 families (including 239 homeless) numbering 16,803 individuals, toward normal family life. Through 56 trained field workers,

ding Visiting Housekeepers and a Visiting Sewing Teacher, 57,516 were made in behalf of those needing assistance; relief in the form of fuel, shelter and clothing was provided to 1,168 families in their homes; initial Nutrition Center for undernourished children was conducted; at Sewing Center 8,640 old garments were salvaged and 11,842 new ones for free distribution; at Wayfarers' Lodge 15,211 meals and 4,834 meals were furnished to convalescents and homeless (40 per cent women children); eight classes in social work were conducted, training 114 and volunteer workers for community service. Eighty people serve in organization and the annual expenses were about \$250,000 in the past months.

#### THE WELFARE FEDERATION

A good description of the Welfare Federation will be found in the introductory chapter, Part I., giving the history of its development and its present position as a coordinating agency for all the component groups engaged in the form of public welfare. Each of its associated organizations has been, to a greater or less degree, under observation in the present study and to all of them we thank for their unremitting courtesy and helpfulness.

A special study was requested at the beginning of the Survey period, to make a study of recommendations in the field of orthopedics and the following chapter gives the result of the inquiries which were made.

### THE CARE OF CRIPPLES IN CLEVELAND\*

#### GENERAL CONSIDERATIONS

The facts that strike one in a study of the provision for cripples in Cleveland are that less than 25 per cent of the 960 cripples enrolled in the various classes of the public schools are under any orthopedic supervision or treatment, and that there has been neither recognition nor leadership provided by the Western Reserve University Medical School for this specialty.

Boston, with a metropolitan population of 1,500,000, has forty specialists in orthopedic surgery with teaching or hospital affiliations. They are occupied and supported by the medical profession and the public. In Cleveland and its vicinity there are but seven physicians limiting their practice to orthopedics, and of these but four have permanent hospital affiliations.

The experiences and triumphs of orthopedic surgery during the war have opened the eyes of the laity and of the medical profession to the indefinite possibilities for human salvage, for prevention of deformity and dependency, for the re-establishment of function in those disabled in the spinal column or in the extremities, such possibilities having been in the past hardly dreamed of outside of a few groups of leaders in the profession.

It will be sufficient here to point out that the specialty of orthopedic surgery differs from most other specialties in that it is a specialty of primary importance.

\*Consultant in Orthopedics, Dr. Robert B. Osgood, President of the American Orthopedic Association.

ciple and not of an anatomical region. This principle may be briefly defined as a principle of the return of function in lesions of the extremities and spinal column. If it can meet its obligations we believe orthopedic surgery should surely include acute as well as chronic lesions, joint infections, acute internal joint derangements, muscular and ligamentous strains, etc., but the majority of cases referred to it will comprise the more or less chronic lesions, in which the return of wage earning capacity in the shortest possible time, is the chief desideratum. The burden of the cripple will continue to be its burden, but the burden should be accepted while the crippling is acute and potential as well as when it is chronic and perhaps permanent.

Already the Industrial Accident Insurance Commission of a great state (California) has become aware of the fact that the time of recovery of wage earning capacity, following certain types of bone and joint injuries, varied very greatly when the patients were cared for by different physicians whose general standing in the community was equally good. They have found it a matter of wisdom and economy to turn over these patients to a specially organized group connected with a State Medical Institution, which group have been especially devoting their attention not only to intelligent surgery but to methods of treatment which produced the quickest return of function. Orthopedic surgeons more than surgeons of any other specialty have been obliged to devote their attention more completely to this class of cases.\*

There are, moreover, in every community large numbers of children and adults whose ordinary efficiency is impaired and whose recovery from any lesion is inhibited by the acquired bad mechanical use of the body, which under proper training is usually capable of correction. This class increases as the facts become known. The great undergraduate universities are recognizing this class and have taken well considered steps to increase the physical well-being of their students by educating them in principles of bodily mechanics. This obligation is not assumed by the Western Reserve University at Cleveland. The size of the class in any community needing this education can be readily gauged by the rejections in the army on this account and the breakdown under rigid training of large numbers of those who had been actually accepted.

Let us briefly summarize the functions to be fulfilled in our opinion by any orthopedic organization:

1. The efficient treatment, operative, mechanical and physiotherapeutic of crippling conditions of the extremities and spinal column, looking to the fullest and quickest return to wage earning capacity.
2. The prevention of deformity in potentially crippling conditions in children and adults.
3. The education of the community in bodily mechanics.

To fulfill these functions it would seem to be necessary to arrange for:

1. A Professor of Orthopedic Surgery in the local medical school, of recognised ability in the specialty and with a faculty of unselfish leadership.

\*Valuable information as to the extent of disabling injuries in the Cleveland district and the large field for the functional rehabilitation of injured wage earners by orthopedic surgery and physiotherapy will be found in the recent report of the State Industrial Commission.

2. Orthopedic Departments in all the acute, sub-acute and convalescent teaching hospitals organized under the Division of Surgery, but with their Chiefs of Service holding the same rank as the Chiefs of General Surgery and other specialties.
3. Facilities for the administration of those forms of physiotherapy, which are recognized of proved value, this administration to be directed by a Medical Chief familiar with the mechanical details and capable of carrying out and supervising in a consultatory manner the treatment prescribed by the physicians and surgeons.
4. Facilities for the manufacture of braces and appliances, and at least the simpler forms of prostheses.

Departments of orthopedic surgery in general hospitals are desirable in out-patient and house service.

Whether or not the acute fractures other than the joint fractures should be considered as orthopedic cases should, in our opinion, depend solely upon whether certain general surgeons of the community or certain orthopedic surgeons have had the larger experience in the treatment of these lesions and whether they retain their interest to continue to supervise the many necessary details of this treatment, looking to the fullest and most rapid return of function. At least we believe there should be constant orthopedic consultation in fracture cases in relation to mechanical treatment, prevention of deformity and early return of function.

Social Service workers as an integral part of the orthopedic department have proved to be of great value. In the system now in operation at the Massachusetts General Hospital in Boston a head social worker and several assistants are assigned to the Orthopedic Out-Patient Clinic and have an office in the clinic. All cases needing investigation of their home conditions, or help in obtaining apparatus, or more detailed explanation of their proposed treatment are referred to this office and the history card stamped "Social Service." All cases referred to the hospital for operation or bed treatment are automatically interviewed by the Social Service worker and the home situation which this emergency creates is ascertained. By means of a card system cases not reporting back to the clinic on the day set for their return are followed up, and when statistics were last taken a 35% loss was reduced to 4%. The cases in the ward are visited by the House and Out-patient Social Service Worker and arrangements for transfer to their homes and immediate after care are made. The service has a peculiar value to an orthopedic department.

A distinct Children's Service in General Hospitals for acute and sub-acute cases is needed unless a separate children's hospital is provided, and a ward or wards should be set apart for children orthopedic patients.

There are many adult cases needing operation and bed treatment for chronic lesions of the bones and joints and spinal column, whose stay in a hospital for acute and sub-acute cases need be only two or three weeks, provided they could be recumbent one or two months longer in some con-



valescent or sub-acute hospital which could be administered with less expense than an acute hospital. The problem of convalescents has been shown to be an important one. A few weeks longer in recumbency or under physiotherapeutic treatment, perhaps directly following their surgical treatment, often saves many weeks of idleness and brings about a much more permanent and complete recovery of wage earning capacity. Beds are needed for convalescent patients in hospitals where their treatment may continue to be directed by the same surgeons under whose care they were, in the acute hospitals.

Simple physiotherapeutic plants would prove valuable in every sub-acute and convalescent hospital. By this we mean simple hydrotherapy apparatus, whirlpool bath and douches, electric apparatus for diagnosis, and the simpler forms of treatment by radiant light, baking, galvanism and Faradism (Bristow coil), one or two universal exercising machines of the pendulum type, and facilities for massage.

If there were a main physiotherapy plant to serve all hospitals more elaborate and complete hydrotherapeutic, electrotherapeutic, and mechanotherapeutic apparatus could be installed and very properly simple curative workshops established. These workshops might very well be made more than self-supporting. Such a central facility for physiotherapy would benefit many types of patients other than purely orthopedic, and while perhaps the interest of orthopedic surgeons in these methods has been more intense than that of other medical men, few of them in our experience are at present sufficiently well trained to administer these measures. Experienced medical supervision of a consultatory character will be required if the results hoped for by physicians and patients are to be expected. Without this dual control there is danger that the treatment may be futile or the service become a fad only. Frequent and accurate records of progress are required in such work, in order that results may be measured. The interest of the patients is greatly stimulated by such records. This orthopedic center could with much advantage be incorporated in or be associated under the same management with the proposed down-town central dispensary serving especially pay industrial accident patients. The benefits of a group of medical and surgical diagnosticians available for consultation and reference at such a center would be of much importance to an orthopedic or physiotherapy center and vice versa.

Brace and appliance shops operated in general hospitals are convenient, but rarely, we believe, successful from either a business point of view or from the point of view of furnishing the highest grade of apparatus at least cost to the patients. If there were a central brace shop where a representative of the shop might measure the patients for apparatus ordered by the surgeon, the surgeon being present when necessary and practicable, errors would be avoided and changes of apparatus would prove unnecessary which entail extra expense to the shop or patient and delay the delivery. In one hospital shop before this method was adopted it was estimated that one-half the labor of the shop was employed in making unnecessary alterations. The shop should include metal work, leather work, the fitting of corsets and

orset belts, the making of pylons and perhaps even the provisional jointed prostheses.

In general the problem of the care of the crippled in a given community involves consideration of its acute hospital and dispensary facilities; of the availability of the services of men especially trained in that branch of surgery known as orthopedic surgery and of the teaching opportunities afforded in this specialty. It also involves consideration of the resources for convalescent care; of the facilities for the practice of all such branches of physiotherapy as are known to be helpful in functional restoration; of the resources for the provision of braces and other special apparatus; and of the machinery at hand for both medical and social follow-up work with such additional resources as special schools for crippled children, funds for the provision of artificial limbs, facilities for transportation to and from dispensaries, placement agencies for handicapped persons, etc.

In studying the problem of the care of the crippled in Cleveland the Hospital Survey has endeavored to learn first the scope and character of existing resources; to discover thereupon the unsatisfied needs, and finally to formulate a program adequately covering the entire field and involving the least change or expense which is compatible with thorough-going work.

#### TEACHING OF ORTHOPEDICS

Until this year the teaching of orthopedic surgery in the Western Reserve University Medical School has been carried on as a subdivision of the Department of General Surgery. There have been a few lectures with clinical demonstrations and there has been a short course of clinical instruction in the dispensary and in the wards of Lakeside Hospital.

By recent vote of the Medical Faculty the Department of Orthopedic Surgery is now separate from that of General Surgery, and the professor of this department will have a service in the university hospital under his own direction. Every effort is now being made to obtain for the head of this department an outstanding leader in the profession. Much for the future of orthopedics in Cleveland depends upon the personality and professional attainments of the head of the department in the medical school.

The dispensary equipment as proposed for the new Lakeside and Babies' Hospitals will give every facility for teaching not only diagnosis but the modern resources for rehabilitation of orthopedic defects by occupational therapy and by the use of muscle training, and hydro- and mechano-therapeutic appliances, etc. While it may continue to be impracticable to offer the undergraduate medical student more than a brief introduction to the principles and practice of orthopedic surgery, the facilities available and the clinical material which will always be at hand in a city of the size of Cleveland, and particularly the type of patient found in abundance wherever there is such a range of industries and employment of men and women among machines, offer a tempting opportunity to develop special courses for graduates or even to the fourth year student who wishes to specialize at once. The coordination

of the city's clinical resources with the agencies for the social follow-up and convalescent care and schooling of cripples offers an unusual range of experience in study of the preventive and family problems of orthopedics.

#### HOSPITAL SERVICE

At Lakeside, Mt. Sinai, St. John's and St. Alexis Hospitals there are specialists in orthopedic surgery in charge of such patients as are generally admitted under this classification. It is not usual in Cleveland to include fractures among orthopedic patients, and at no hospital in Cleveland is there organized what is sometimes spoken of as a fracture team, consisting of a general surgeon, an orthopedic surgeon and a neurologist. It is not customary and it may be said it is not suitable with the present shortage of hospital beds in Cleveland to set aside a definite number of beds for the exclusive use of orthopedic patients. There are usually to be found at Lakeside Hospital about ten orthopedic patients receiving bed care, from three to fifteen being the range noted during the survey. There are a few orthopedic patients at Mt. Sinai Hospital, rarely more than six to ten, in wards and in semi-private rooms. At St. John's Hospital there are usually two or three and sometimes as many as five orthopedic bed patients. At St. Luke's Hospital, where orthopedic patients are not under the care of orthopedic specialists, there are commonly a few (three to six) cases.

The service at St. Alexis Hospital has only recently been organized under a specialist in orthopedics, and the use of beds is irregular, but certain to increase, especially among industrial accident patients.

#### DISPENSARY SERVICES

Dispensary facilities,\* more or less complete, are offered at six hospitals. The physiotherapy facilities in Cleveland are extremely limited.

Lakeside has three orthopedic clinics a week with an average attendance of 10 to 12. No physiotherapy staff.

Mt. Sinai has an orthopedic clinic open every day from 9 to 10:30 and 2:30 to 5:30. During 11 months of 1919, 5,818 physiotherapeutic treatments were given. The clinic is equipped with two Zander machines, quarter circle pulleys, hanging apparatus, dumb bells, and has facilities for general massage, and four well trained masseuses.

St. John's has no dispensary, but treatments are given every day to out-patients at all hours by two trained physiotherapists. Emphasis is placed on hydrotherapy. This hospital also has an electric light cabinet, steam cabinet and facilities for general massage. Patients will be accepted from other hospitals or dispensaries for treatment.

St. Vincent's has no orthopedic staff. Cases discharged from the wards are followed up. There is an attendant trained in physiotherapy. General massage is given and electrical and steam cabinet treatments are provided.

\*For special report on all dispensary services in Cleveland, see Part X.

The Babies' Dispensary and Hospital has an attendant trained in physiotherapy and has equipment for massage and simple electrical treatment. It is open three days a week from 9 to 11. Children up to the age of 14 are admitted. The average attendance is 12 children a month. An orthopedist visits the clinic once a month for supervision.

Lakeside has three orthopedic clinics a week. There are no facilities for physiotherapy.

#### CONVALESCENT SERVICES

Convalescent care\* for crippled children to the age of 14 is provided by Lakeside Hospital up to 75 beds. The Fresh Air Camp receives ambulatory crippled children to the same age to a capacity of 50 beds. The Warrens-Tubercular Sanitarium and Children's Cottage give convalescent care to crippled children and adults who are suffering with a pulmonary complication. The Warrensville Infirmary is the last resort for convalescent care of crippled adults and for children who are beyond the age limits set by Lakeside Hospital and the Fresh Air Camp, but at this city institution no orthopedic treatment is provided.

#### BRACE-MAKER

Lakeside Hospital gives space in the basement of the hospital to a brace-maker. The bracemaker gives special rates to all hospitals in the city. This service is used by all the hospitals and by the orthopedists. No comment is made as to quality of service rendered, but the facilities are entirely adequate. Often it is necessary to wait weeks or months for a brace.

#### SOCIAL SERVICE

The social service facilities for orthopedic patients as provided at several city hospitals, Lakeside, Mt. Sinai and Rainbow, lack completeness, and without the central assistance of the Association for Crippled and Disabled, fail in their full possibilities both in doing most for the patients and in providing for optimum use of hospital and dispensary services.

Lakeside has an insufficient social service staff for adequate follow-up. The children's worker devotes most of her time to the orthopedic cases. She admits all the children during dispensary hours, but does nothing further in the children's clinic. She assists in the orthopedic clinic and arranges for hospital admission. She spends most of her mornings visiting the homes of orthopedic children. She arranges convalescent care for orthopedic cases and occasionally for other children's cases from the hospital.

Mt. Sinai has an insufficient social service staff but has a fine spirit of cooperation. One graduate nurse does the follow-up work for orthopedic cases, giving about one afternoon a week. Financial investigations are made by the head of the clinic. If the patient fails to attend clinic a follow-up visit is made to the home to discover the reason for non-attendance.

\*For special consideration of the problem of convalescent care of all kinds, see Chapter on Convalescence, Part X.

Rainbow Hospital has endeavored to keep in touch with the children discharged from Rainbow as long as anything medically or surgically could be done for them. The Social Service Department of the Association for the Crippled and Disabled has done medical and social follow-up work with all persons referred to its attention.

One-fourth of the income from the Benjamin Rose Institute is available to provide funds for the hospital and dispensary care of crippled children.

#### THE ASSOCIATION FOR THE CRIPPLED AND DISABLED

The Association for the Crippled and Disabled, a very valuable co-ordinating agency, has a board of trustees elected to be representative of all groups especially interested in the crippled problem. At the present time the board members include representative members of Rainbow Hospital, Holy Cross House, the Hospital Council, Babies' Dispensary and the Public Schools. The Board members also include a large representation of what was formerly the Sunbeam Association for Cripples, which organization and its activities were merged in the Association for the Crippled and Disabled. The Association for the Crippled and Disabled has also recently asked for representation from the Rotary Club, which is now interested in crippled work. An orthopedic council has recently been formed at the request of this association for the purpose of providing for the expression of opinion and forming professional policies for the Association, by joint action of the specialists in orthopedic surgery in Cleveland.

The Association functions through the following committees and departments:

The Committee on Orthopedic Resources works to organize and co-ordinate the orthopedic resources of the city to the end that all orthopedic needs may be adequately met in the most efficient manner possible.

The Social Service Department embraces the following activities:

The securing of expert medical diagnosis and making possible any treatment indicated.

The furnishing of transportation and accompanying patients to hospitals, dispensaries, etc.

The furnishing and having repaired braces, special shoes, artificial limbs, etc.

Arranging for vocational training and special schooling as well as providing recreation and offering vacation opportunities and arranging for friendly visitors.

Providing equipment necessary for employment, supplying home teachers to home-bound crippled children of school age and arranging for a supply of magazines, delicacies, toys, etc., for them.

Providing outings and festivities for the children in the School for Crippled Children.

Through its Social Service Department the Association aims to insure every crippled person in Cleveland, whether child or adult, the best physical condition he is capable of attaining; the best education he is able to assimilate; the best job he is competent to undertake.

The Employment Bureau of the Association is now organized in connection with the United States Employment Service and finds suitable employment for crippled and disabled men. The department is experiencing no difficulty with organized labor, because in placing the handicapped there is no effort made to market their labor at a lower price than that offered for similar service of physically sound men. Besides this, the labor unions realize that under certain circumstances men may work for less than the scheduled union wage, as, for example, elderly painters are permitted to work for less than the standard union wages when their physical condition is such as to forbid their working at the same pace as younger men.

The Bureau is able to place approximately fifty cases a month. In the nine months from April to December, 1919, there were 1,327 applications and 527 placements. It was not learned what percentage of these placements were relatively permanent.

The Sunbeam Shop offers employment to crippled and disabled girls and women in various kinds of needle work, and gives a training course in sewing to crippled and disabled girls and women desiring to enter this trade. The shop has an average of 10 workers.

The Home Industries Committee provides work for home-bound crippled and disabled persons, and furnishes both diversion and income to those whose lives are, of necessity, greatly restricted. It is instrumental in marketing the articles produced. During the month of April, 1920, 34 people were carried by the committee. Practically all of the women do sewing. The efforts of the men cover a wider range; i. e., toy-making, book-binding, finishing work for tailors, etc.

The Committee on the Welfare of Cripples in Institutions makes a study of the welfare of cripples in public institutions, endeavors to improve these conditions by the furnishing of recreation and employment and by the provision of ordinary comforts where these are lacking.

This committee has organized a vocational therapy shop at Warrensville Infirmary, where the men work every day. One full-time instructor and one half-time instructor are at work in the wards. The ward work is an experiment on the part of the Association.

The Committee on Cooperation with the Public Schools has the following objectives:

The appointment of a Supervisor of Cripple Work in the Medical Department of the Public Schools, the erection of a new and adequate special school for crippled children, the employment by the school of home teachers for house-bound children of school age, the perfecting of the method of transporting crippled children to and from school.

The Association has recently appointed a staff member, skilled in physiotherapy and muscle training. Through this worker an attempt will be made to give physiotherapeutic care in patients' homes and in settlements, to cripples not cared for in other ways and for whom no other provision can be made.

#### EDUCATIONAL FACILITIES FOR CRIPPLES IN THE CLEVELAND PUBLIC SCHOOLS

**Regular Schools:** In June, 1919, there were 960 crippled children enrolled in the Cleveland regular public schools. 65 of the 960 were discharged from the Crippled School. 48% of the 960 were disabled by infantile paralysis, 15% by congenital deformities, 10% by tubercular bone disease, 5% by amputations, 6% by fractures and 5% by spastic conditions. Less than 25% of the crippled children in the regular schools of the public school system were under any orthopedic treatment.

**Special School:** The Board of Education at present is conducting a special school for crippled children who cannot take care of themselves in the regular schools, and is providing them with transportation to and from their homes.

In January, 1920, there were 120 pupils in the Cripple School. On the waiting list there were 8 who were out of school, 11 who were in other schools, and 30 who were barred from kindergarten and first grade on account of lack of room. A very small number of crippled children in the regular schools are candidates for the special cripple school. Children are now being sent from the special cripple school into the regular classes, who would benefit by a longer attendance in the special school. Their premature discharge seems the less of two evils. By their transfer, room is made for others usually so handicapped that without a created school vacancy they must remain at home.

At the present time there is one worker who investigates candidates for the school.

In the Cripple School 68% of the children were disabled by infantile paralysis, and 12% by tubercular bone disease. The remaining 20% were disabled by spastic conditions, amputations, progressive muscular paralysis, congenital deformities, osteo-myelitis, etc. About 95% of the children in the Cripple School are under orthopedic surgical supervision.

A lot has been purchased on the Fresh Air Camp site and another special school for cripples will be built there. This school will accommodate about 250. The architect of the Board of Education, after making a special study of schools for cripples in many other cities, has drawn plans incorporating what appear to be the best features of each. There remains simply the question of financing the undertaking.

The Board of Education expects to make provision next year for the giving of special exercises in the regular schools to children with slight orthopedic defects. The present worker will be used for this purpose and one, or possibly two, assistants will be provided for her.

## PRESENT NEEDS

chiefly, to state the unsatisfied needs in the present situation, the city to have orthopedic dispensary facilities developed on the west side of river.

All dispensaries and hospitals accepting for care orthopedic cases should at their command trained orthopedists, and not trust such cases to the local practitioner, pediatricist, or general surgeon.

The present facilities for physiotherapy are inadequate and such as are, because of location, are wasteful of the time of patients.

Rainbow Hospital, which has been and is one of the largest factors in medical work in Cleveland, has been very much limited in its field of action by the contract affiliating it particularly with Lakeside Hospital. Although Rainbow has offered to receive patients from other hospitals and dispensaries it is not strange that surgeons have been loath to send patients by so doing they have necessarily lost supervision over them.

Hardship is wrought by the fact that there is no place at present for the adolescent care of crippled children beyond 14 years of age. When exceptions have been made by institutions whose age limits have been set at 14 the results have been almost universally unfortunate. It happens, therefore, that no place is open to the adolescent crippled child, save the wards of the Warrensville Infirmary, and it goes without saying that these wards are not the proper setting for the life of any boy or girl.

The adult cripple frequently suffers now along with many medical cases because of the lack of opportunity for convalescent care. A general convalescent hospital for all adult cases would, of course, greatly relieve the situation. (See chapter on "Convalescent Care," Part X.)

The follow-up work with orthopedic cases has been erratic and has suffered for lack of organization. Neither Mt. Sinai nor Lakeside has had a service staff sufficient to insure the proper following up of cases that are receiving medical attention in the dispensaries. There has been confusion in the follow-up work done by Rainbow Hospital due to the lack of a clear delimitation of work with Lakeside Hospital. The follow-up work of the Association for the Crippled and Disabled has been difficult, because attempting to supplement the work of the dispensaries there is the constant danger of duplication.

The Board of Education has not sufficiently recognized the complexity of the problem offered by the crippled school child and has never had a clearly defined program of its functions in this connection. It has not realized the opportunity as a preventive agency in the matter of orthopedic deformities as it realized its obligation to the crippled children in the regular schools.

There are practising in Cleveland a number of surgeons who are devoting practically their entire time to the practice or teaching of orthopedic surgery or both. General surgeons and some of the practitioners of medicine who have much practice among children take orthopedic patients in their



practice and operate or prescribe or apply corrective measures. Those limiting their practice to orthopedic surgery in Cleveland are in entire agreement as regards the deficiencies in the educational facilities of the Western Reserve University Medical School and in the matter of hospital and dispensary provision for patients.

#### PROGRAM AND RECOMMENDATIONS

The program which follows is offered to the citizens of Cleveland for their consideration and support, with the conviction that it represents the best thought of the specialists of their city and is in substantial agreement with the accepted ideas of the leaders in orthopedic surgery among the profession elsewhere.

St. John's Hospital, because of its location, and because of the small beginnings already made in hydrotherapy and in orthopedic work in the wards, might well develop an orthopedic department in connection with its future dispensary service. Provision should also be made for the inclusion of an orthopedic department in the extension of the work at the City Hospital. With such additions the orthopedic needs of the West Side should be fairly met.

The Hospital Survey approves of the recently organized Advisory Orthopedic Council having as personnel the heads of the orthopedic departments in the various hospitals and such other orthopedists as these men may choose to associate with them. This group could meet upon call of the secretary of the Association for the Crippled and Disabled to advise upon any question of a professional or administrative nature submitted by any one of the groups responsible for any phase of the crippled problem.

There should be a central office which would take ultimate responsibility for all medical and social follow-up work with orthopedic cases. The existence of adequate medical and institutional facilities or, indeed, of adequate resources of any nature does not necessarily signify real accomplishment. If lapses in treatment are allowed, if braces can be neglected, if home conditions are destructive of gains previously made, etc., the accomplishment of surgery or medical treatment may be nullified. The Survey would recommend that the Association for the Crippled and Disabled, which has already made considerable headway with social service follow-up work with the crippled in Cleveland, should take upon itself the ultimate responsibility for insuring that adequate follow-up work is done in every individual orthopedic case. However much or little of the actual case work be done by the Association for the Crippled and Disabled the responsibility for insuring that the work is adequately done by some one and that records are properly kept should reside with the Association for the Crippled and Disabled Social Service Department.

There should be established a center of physiotherapy which should have a staff of trained physiotherapists and where equipment for physiotherapy would be available. Such a center should be under the direct supervision of a group of people who would be interested in making it possible to attain a

standard of treatment. They would benefit by the advice and suggestion of the Orthopedic Council. The services of the center should be available to all surgeons of the Orthopedic Council. A careful plan of cooperation between the surgeons should be worked out so that all work done would be upon prescription and under the advice and supervision of the surgeon in charge of the case, and such treatment records should be kept as might be practicable to and standardized by the Orthopedic Council.

The Hospital and Health Survey recommends that:

The Orthopedic Council, formed at the invitation of the Association for Crippled and Disabled and now organized, include in its membership a representative of the lay management of each hospital which has a dispensary or bed service for orthopedic patients under the direction of an orthopedic surgeon.

The Association for the Crippled and Disabled enlarge its activity to include the operation of an orthopedic center where, in addition to fulfilling several of its established social and welfare functions, the Association should administer a physiotherapeutic service under the direction of an orthopedic surgeon or surgeons nominated by the Orthopedic Council. This service should be, so far as possible, self-supporting and should serve the needs for all manner of muscle training, massage and mechanical treatment of functional and structural disabilities of joints, bones and muscles, and their nerve control, referred by hospitals, dispensaries, private practitioners, shops, industries and schools.

The proposed Orthopedic Center include the central Brace Shop now located at Lakeside Hospital, and the

Information Center,  
Social Service Center,  
Vocational Training Service,  
Transportation Service,  
Home Industries Activities,  
Artificial Limbs Fund Service

at present being operated by the Association for Crippled and Disabled, and that this center serve as the point of contact and coordination of all the institutions dealing with cripples, in particular the acute hospitals with orthopedic services, the convalescent hospitals for orthopedic patients, the services for cripples of school age, and the other social agencies, such as the Holy Cross Home, Employment for Handicapped, etc.

- (a) Not less than 50 beds be provided for acute orthopedic patients at the new Lakeside Hospital—30 for children and 20 for adults.
- (b) Not less than 60 beds be provided in the extension of Mt. Sinai Hospital—40 for children and 20 for adults.
- (c) Not less than 50 beds be provided at the new St. Luke's—30 for adults and 20 for children, and that this service be put in charge of an orthopedic specialist.
- (d) Twenty beds be provided at St. John's Hospital—10 for adults and 10 for children, and that an orthopedic dispensary be established at this hospital.

- (e) Sixty beds be provided at City Hospital—30 for adults and 30 for children, this latter to include beds to be made available for isolation for orthopedic patients affected with acute communicable diseases and with venereal diseases in the communicable stage. That an orthopedic dispensary be established at this hospital. That ward and dispensary service be put under the direction of an orthopedic specialist.
  - (f) Thirty beds for adults be provided at St. Alexis Hospital when this hospital undertakes its program of reconstruction and reorganization, and that an orthopedic dispensary be established at this hospital.
  - (g) Holy Cross Home increase its capacity to provide for orphan cripples of older age groups (adolescents). That a nurse especially trained in the care of orthopedic patients be employed constantly at this institution.
5. The admitting and assigning authorities of all hospitals with orthopedic services either for bed or dispensary patients authorize and require the assignment as patients for the care of the orthopedic surgeon, those suffering from the conditions and diseases listed below:
- Foot Strain (Flat Foot) Hallux Valgus,
  - Scoliosis,
  - Deformities of Rachitis
  - Congenital Deformities,
  - Contraction of fascia or tendons (resulting in deformities of joints),
  - Affections of Bursae,
  - Tuberculosis of Joints,
  - Non-articular Disease—
    - Gonorrhea,
    - Syphilis,
    - Infections,
  - Deformities of Chronic Polyarthritis,
  - Chronic Joint Strain,
  - Acute Muscular and Ligamentous Strain Involving Joints,
  - Infantile Paralysis (after acute state),
    - Requiring: Prevention of Deformity,
    - Muscle Training,
    - Apparatus, etc.,
  - Spastic Paralysis (requiring correction of deformity and muscle training),
  - Traumatic derangement of Joints (cartilage),
  - Bone Disease of Unknown Origin, such as Chondrodystrophy, Osteogenesis Imperfecta, Adolescent Rickets.
  - Deformities Following Old Fractures into Joints,
  - Deformities Following Dislocations.
6. A fracture team to consist of a general surgeon, an orthopedic surgeon and a neurologist be organized for the treatment of fractures in any general hospital where an orthopedic specialist and neurologist are available on the medical staff.

The Department of Orthopedic Surgery in the Medical School and at the University Hospital group be included under the general group of surgery but be allowed full autonomy in the development of the specialty in the diagnosis and treatment of all patients falling within above list (see 5.) and that special facilities be provided for intimate coordination of ward and dispensary services with the social service department and for development of special clinics in poliomyelitis, scoliosis, and posture defects.

Rainbow Hospital be enlarged to accommodate 300 orthopedic or other patients for convalescent care; that the service at Rainbow Hospital be restricted for the present to the convalescent care of adolescents and children; that Rainbow Hospital accept patients from all the hospitals in the city; that patients in the communicable stages of gonorrhea and syphilis and those with open pulmonary tuberculosis be excluded; and that the medical staff consist of the heads of orthopedic services in hospitals providing such services, and such other orthopedic specialists as may be considered qualified by the Orthopedic Council—the resident orthopedic surgeon to be nominated by the Orthopedic Council. While Rainbow Hospital is, as now organized and equipped, prepared to serve only the needs of children, it may well be that, in the absence of any new undertaking for convalescent care under other auspices, the Board of Managers of Rainbow Hospital will find themselves under much pressure and almost a moral obligation to extend their activities to provide for adults, convalescent from general medical and surgical conditions.

The Fresh Air Camp discontinue its service for cripples as soon as Rainbow is prepared to accept all the cases offered for convalescent care.

A nurse trained in the care of orthopedic patients be available at all times for service at Warrensville Tuberculosis Sanatorium. (One of the regular nurses always on duty could be trained to meet this requirement.)

A visiting orthopedic surgeon be appointed at Warrensville Infirmary to care for convalescent adults, and that a nurse trained to care for orthopedic patients be provided at this institution.

When an orthopedic service is established at City Hospital the chief of this service be responsible for the professional care of the orthopedic cases requiring treatment at Warrensville Tuberculosis Sanatorium and the Warrensville Infirmary.

To the responsibilities already assumed by the Board of Education in the care of crippled children should be added the following:

The prevention, as far as may be, of orthopedic deformities through attention to posture, seating, etc.

The recording of every crippled child in the school system.

Provision of supervision by an orthopedic surgeon for every crippled child of school age needing such attention. The orthopedic surgeon may be privately employed or his services secured at a dispensary.

Provision that each child report at proper intervals to the orthopedic surgeon in charge of his case.

The furnishing of transportation to dispensaries when such transportation is a necessity.

The giving of simple massage and special physical exercises, not requiring elaborate equipment, in school buildings, under the close supervision of the orthopedist in charge of each child.

The keeping of such records of these treatments as may be suggested by the Orthopedic Council.

The creation in the public schools within the Department of Medical Inspection of a Department of Orthopedic Supervision; that the supervision be by a trained physiotherapist whose qualifications are such as to be acceptable to the Orthopedic Council, that such other trained physiotherapists be employed as are necessary to carry out the plan as outlined, for work under the supervisor, who could be employed for work in the different schools as needed.

14. The governors of Rainbow Hospital request all nurses training schools in Cleveland hospitals where there is no organized training care of orthopedic patients to send their nurses for a period of not less than two months each to Rainbow for special training, before or after graduation, in the care of convalescent, brace, plaster, paralytic and chronic tubercular joint cases, etc.
15. The support of the Rotary Club be enlisted to add either an acute or convalescent orthopedic service to existing institutions rather than attempt to create a new orthopedic hospital. It is apparent that the need for acute hospital beds for orthopedic cases would be much relieved if there were adequate facilities for convalescent care, and we think that the money and interest of the Rotary Club would be more effective if brought to the support of Rainbow Hospital than if a new undertaking, with all the necessary overhead expense to be met by the community, were established by the Rotary Club independently.
16. Efforts be made by the Faculty of the Medical School, by the Academy of Medicine and by the Orthopedic Council to attract to Cleveland well trained young orthopedists and to provide for their development through dispensary and hospital services in this specialty.

### Additional Private Health Agencies Proposed

There are, in spite of the generous array of private agencies above listed, several activities which are still needed to give a completely rounded service to the community in the field of preventive medicine applied through social organization.

Cleveland has no organization in the following fields of preventive and social medicine:

- The Prevention and Relief of Heart Disease.
- The Prevention and Cure of Cancer.
- The Prevention and Treatment of Mental Disease.
- The Prevention and Control of Venereal Diseases.

Cleveland further lacks a central representative popular Public Health Association, to which reference is made in the introduction to Part I.

### THE PREVENTION AND RELIEF OF HEART DISEASE

Through the courtesy of the Association for the Prevention and Relief of Heart Disease of New York the following text has been prepared. It represents the opinions of a group of physicians and others interested in these facts. The arguments and the projects proposed have been in large measure applied to conditions as they exist in New York City, and are equally applicable to Cleveland.

Reference to the list of the chief causes of death in Ohio will disclose the fact that deaths from heart disease are more numerous than those from any other cause, pneumonia and tuberculosis following heart disease (in that order), with small differences. Deaths in Ohio per thousand population in 1917, as reported by the Bureau of Census, were: heart disease, 1.66; pneumonia, 1.48; tuberculosis, 1.42. The figures for these diseases for the city of Cleveland are not sufficiently reliable to be used, for the reason that there is no established policy or standard practice followed by the employees of the Division of Health concerned with the classification of deaths according to the International List which is used by physicians throughout the country. The report from the Division of Health that there were 855 deaths in the city of Cleveland attributed to heart disease, in 1919, represents considerable margin of error, but indicates the magnitude of the problem with which preventive medicine is faced. At present, there are no facilities especially provided for the diagnosis, treatment, prevention or study of the problem of heart disease, with the single exception of the one electrocardiographic station provided for clinical use at the City Hospital. If heart disease can be, to any degree, prevented, and there is abundant evidence to believe that this is the case, it is time that the facilities and devices which are used elsewhere should be put into operation in Cleveland.

But it is not in the actual loss of life that we see the greatest drain upon the community; it is in the mass of children and elders who lead handicapped, stunted, painful lives because of their chronic disease of the heart. Until recently, there has been but scant attention paid to prevention of heart disease, but now, thanks to active organization among physicians to accomplish sane measures of control and abatement of heart disease, the lines of the problem, the objects aimed at through the prevention and relief, the agencies which can be availed of, the methods in use and found applicable in attacking this great drain upon the public's health, can be given with some precision. Through the cooperation of the Association for the Prevention and Relief of Heart Disease, the following program has been prepared and is proposed for Cleveland, following the experience and accomplishments along these lines in New York City since 1916.

### THE AMOUNT OF HEART DISEASE IN CLEVELAND

One of every 15 deaths in Cleveland last year was reported as due to heart disease.

Two per cent of the persons examined by insurance companies are rejected because of serious heart defects.

Two per cent of industrial workers are found on careful examination to be the subjects of definite heart disease.

Two per cent of the men coming before the draft boards, and to the camps, were rejected by army medical examiners on account of heart defects.

One and one-half to two per cent of the children examined in the schools show serious heart defects.

From the above facts we may conservatively estimate that two per cent of the population, or in the United States over 2,000,000 persons, and in Cleveland 16,000 persons, suffer from serious HEART DISEASE.

The objects to be attained in prevention and relief of heart disease are:

1. Removal of the causes of heart disease.
2. Early detection of potential cases of heart disease.
3. Early detection of those having organic disease of the heart.
4. Suitable care of the above, including convalescent care, education, and selection of suitable occupations for those handicapped by heart disease.
5. Institutional care for those hopelessly incapacitated by heart disease for self-support.
6. Economic saving to the community.
7. Humanitarian prevention of suffering and incapacity.

#### AGENCIES NEEDED

To attain these objectives it would be of advantage to enlist the interest of those who should see and appreciate the need, preferably by organizing a voluntary committee. Such a committee devoted to the problem and willing to take the initiative in this field might well have representatives of the Academy of Medicine, the Division of Health, the Board of Education, the Hospital Council, the Visiting Nurse Association, the social service workers, employers in various trades and interested citizens, both men and women.

The function of such a community committee would be to develop interest in the preventive side of heart disease, to coordinate existing facilities for prevention and relief, to develop new ones where necessary, and to act as an educational force. Sub-committees on prevention, on relief and on educational publicity, would be found necessary.

The agencies needed to provide adequate means for prevention, diagnosis, treatment, etc., are—

*Clinical Laboratories, Serological, Chemical, X-Ray, such as are found in a number of the hospitals of Cleveland.*

*Electrocardiographic stations, such as are found only at the City Hospital at present in Cleveland.*

*Consultations in specialties at the central dispensary as suggested in theapter on dispensaries.*

*Follow-up system through visiting nurse and social worker services.*

**Special Cardiac Clinics.** (New York has 37 such in operation in 17 hospitals, situated so as to be of easy access to different portions of the community, with sessions which not conflict with school hours, and in the evening for workers.) The professional and associated institutional facilities which are to be provided through these special clinics are:

- (a) Medical supervision and instruction of patients, instruction of parents, and instruction of school teachers.
- (b) Special cardiac social service (social service workers are employed in 31 classes in New York City), which will provide assistance in class, education of patients and parents, study of home conditions, study of school conditions, study of employment conditions.

It is desirable to arrange for close affiliation with the nose, throat and dental departments of the clinic, and to arrange for admission and investigation of patients by hospitals and for convalescent or chronic care where necessary.

Convalescent homes for cardiac patients (similar in service to the sanatoria and sanatoria for tuberculosis) are needed for potential cardiacs and for those with organic heart disease in whom improvement is to be expected, with facilities for fifty or sixty beds (350 beds available in New York), where medical supervision, educational, (mental and vocational) exercise and recreational facilities will be provided. This is a function which Rainbow Hospital could well perform.

Homes for the incurable cases of heart disease, such as the Warrensville firmary will be when it is adequately developed and staffed, are a necessity to avoid the present neglect of the permanent cardiac invalid for whom there is now in Cleveland no accommodation.

An occupational bureau which might be established in connection with the employment bureau at the City Hall, or as an addition to the employment function of the Association for the Crippled and Disabled, would provide supervision of and aid in vocational education in selected cases of each of the cardiac clinics in New York has such a service), would provide a selection of suitable occupations for cardiacs referred by hospitals, special clinics, convalescent homes and private physicians, and would provide means for maintaining close cooperation with employers.

#### PREVENTION

In its broadest aspect the prevention of heart disease presents distinctly medical, social and economic problems.

From a medical standpoint we have to consider: first, the prevention of disease in healthy hearts, and second, the prevention of disease in hearts which have already been damaged.



The causes of primary injury to the heart muscle may be grouped under those arising from infectious diseases, those resulting from intoxications, and those following improper modes of life. The infectious diseases most frequently affecting the heart are rheumatism and syphilis. The destructive effects of syphilis are found most frequently in people in early adult or later life, and this group involves the consideration of the whole problem of social hygiene, as described in the chapter devoted to that subject. (See Part V.)

The prevention of heart disease in young people is of the greatest importance, because of their age and the cost of their care to the community.

The chief cause of heart disease in early life is acute rheumatism. Although we do not know definitely the causes of acute rheumatism, enough work has been done to make us quite certain that we are dealing with a germ disease, an infection which probably enters through diseased tonsils, adenoids or decayed teeth.

Therefore, we consider it a most important duty of parents to have the mouths and throats of their children examined once yearly by a physician. The removal of diseased tonsils and adenoids, and the proper care of the teeth, are the most effective preventive measures against rheumatism at present known to us. Neglect to provide the diet which will permit of uninterrupted and steady development in weight and height in proportion to age, may also be considered a major cause of cardiac disease in childhood, owing to the lowered bodily resistance to infection and diminished capacity for recuperation from infection.

Statistics of 3,134 cases of acute and sub-acute rheumatism, gathered from the records of four New York City Hospitals, show that the greatest number of cases occur during February, March, April and May.

That people become "run down" or "below par" physically during the late winter and early spring months, is a fact based upon common experience. We do not know that this physical condition makes people more susceptible to rheumatic infection, but because of the greater frequency of rheumatism at this time of the year, it would seem wise to promote in every way possible the maintenance of good health during the winter months. The value of out-of-door exercise and sufficient sleep in well-ventilated rooms, as means to this end, cannot be overestimated.

People who have had one attack of rheumatism are especially liable to other attacks, and therefore it is of the utmost importance that they observe the preventive measures, outlined above, in reference to the tonsils, the care of teeth and keeping in good physical condition.

A person suffering from an acute attack of rheumatism should be placed under medical care at once, and should be kept in bed for some days after the temperature is normal, even though no signs of heart disease can be found. The necessity for a prolonged rest in bed is based upon the knowledge that an acute inflammatory process, which we are unable to detect, may exist in the heart and subsequently develop into severe heart disease.

Adults leading sedentary lives, whose activities are chiefly mental, who but little out-of-door exercise, who eat too much and sleep too little, frequently suffer from circulatory changes. The exact effect on the heart poisons derived from this mode of life, as well as from the habitual use of alcohol, tobacco, tea and coffee in intemperate amounts cannot be definitely and precisely stated, but it is certainly the part of wisdom to change one's mode of life, if it is of the type described, and equally advisable to restrict the use of these poisons.

The social problems of the prevention of heart disease require the fullest cooperation of the family, school authorities, and employers in caring for those whose heart's efficiency has been impaired by disease.

The economic problem involved in the prevention of heart disease is of increasing importance because in childhood this disease may cripple productive wage-earners, while in adult life, the earning capacity of the patient may be permanently limited or even destroyed, and he and his dependents become a charge on the community. Statistics show that the number of people incapacitated by heart disease is already large and rapidly increasing, and the preventive measures outlined, if widely known and applied, would reduce the number to be cared for by the state and therefore, diminish the drain on the public treasury.

Prevention may be summarized to include—

Control of infectious diseases, particularly rheumatism and syphilis.

Care of teeth, tonsils and adenoids.

Lengthening of the period of hospital stay and convalescent care after acute infections, particularly after *rheumatism* and tonsillitis. Hospitals in Cleveland are not doing their part and cannot until the shortage of beds is relieved.

Supervision of home after-care, preferably from a special cardiac class in a dispensary.

More regard for "growing pains" in children, commonly found to be of infectious or inflammatory origin, and their importance often overlooked.

Supervision of nutritional defects.

Avoidance of mid-age over-exertion, habits, intoxications, etc.

Prevention of decompensation may well come under this heading. It is really the prevention of serious heart breakdown and is important. Prevention of heart overstrain in those with a recognized heart defect is an important service of special cardiac clinic classes for adults.

Detection of patients with early or unrecognized cardiac disease is the first step of proper preventive management. Physical examination of all children admitted to schools, public and private, is advised. Re-examinations should be made once a year where practicable, and always after an acute illness.

- (e) The general hospitals of Cleveland do not discharge patients suffering from cardiac defect without arranging either for adequate convalescent care or for dispensary and home supervision.
- (f) Physicians having children in their care examine each year the condition of the tonsils, adenoids and teeth of such patients, with a view of detecting foci of infection, by the removal of which cardiac disease may in some measure be reduced.
- (g) The Board of Education provide for special medical supervision and administrative concessions for cardiac children.
- (h) A committee be formed for the purpose of studying the resources for prevention and relief of heart disease and for developing knowledge of and interest in the use of all means, including education, which may be relied upon to prevent the development of heart disease or postpone its disabling results.

#### PUBLICITY

Suitable material for distribution to teachers, nurses, and friends or families of patients will be found among the publications of the Association for the Prevention and Relief of Heart Disease, in New York (327 East 57th Street).

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### THE PREVENTION AND CURE OF CANCER

If it is true, as it seems to be, that one in ten of the deaths of persons beyond the age of forty is due to cancer, and if the apparently verified increase in the death rate from cancer amounts to as much as 2.5% per annum, there is good reason for both public and private health agencies to start upon their studies and their education of others, so that at least the resources for accurate diagnosis and cure may be put at the disposal of all who need it.

The American Society for the Control of Cancer which has led the country in this subject has been instrumental in organizing state and local societies with the same purpose. No such society independently or as a branch of the national society has been formed in Cleveland, although during the spring of 1920 a number of Cleveland's public spirited surgeons devoted themselves for the better part of a week to lecturing before lay audiences on the subject of early diagnosis, cure and prevention of cancer.

The National Society has contributed to the Survey by preparing a program suitable for adoption by Cleveland. Such an undertaking will need support of the Division of Health, and especially of any publicity or educational service the city can supply, and of private agencies, particularly of a special society which this statement of the case may tempt into existence.

Some of the activities proposed have been adopted by many health departments. In no place have all the possibilities of an organized attack on public and private indifference been employed.

Suggested activities of a local Cancer Prevention Society are as follows:

#### PROGRAM OF ACTIVITIES

As the purpose of the National Society as well as the State and Local Committee is to bring essential cancer control facts to as nearly as possible 100% of the adult population, this subject of activities should logically be considered in connection with the appointment of certain sub-committees.

(If the committee as a whole prefers to carry on the various phases of the program instead of appointing sub-committees, it would doubtless tend to greater efficiency in most cases if the main activities were apportioned among the committee members. In this way individual members should be made responsible for the prosecution of definite parts of the program.)

***1. Activities of a sub-committee for work with professional or quasi-professional groups.***

**(a) Division of Health.**

First ascertain through the central office what, if anything, the Division has done.

Assist in securing the Division's cooperation in printing and distributing pamphlets suggested by the society.

Encourage the Division to provide free examination of specimens of suspected cancerous tissue for diagnostic purposes.

If a regular health bulletin is issued persuade the editor to devote certain numbers or parts of numbers to cancer control.

The Division should be encouraged and assisted in the preparation of popular articles on cancer for newspapers.

If the Division has a health exhibit it should devote a portion of it to material for education regarding cancer.

Where health centers are established they should be provided with exhibits, placards and literature for general public distribution.

The Division should be urged to prepare circulars on danger signals of cancer for distribution to all midwives.

**(b) Medical Associations, Academies and Societies.**

As above, find out first of all by writing to the National Society Office what has been done by these organizations.

Assist the Central Office in securing the appointment of a permanent Cancer Committee in the Academy of Medicine.

Encourage all such organizations to cooperate with the society and other organized groups in educating both the medical profession and the public.

Endeavor to have each medical organization devote at least one meeting each year for its own members to a discussion of cancer, and hold at least one public meeting on the same subject each year (perhaps in cooperation with other groups or with the Division of Health.)

Present to all organized medical groups their responsibility for the education of the medical profession and attempt to have them publish, either alone or in cooperation with the Health Division, the society's handbook for this purpose.

Encourage the publication of good articles on cancer in state and local medical journals.

#### Hospitals and Dispensaries.

Prepare posters and placards on cancer for bulletin board display.

Encourage the distribution of appropriate literature on the subject to patients.

#### Nursing Organizations and Schools.

Every training school for nurses should be urged, through the appropriate surgeon of the hospital, to include cancer control in the lecture course.

All such schools should be supplied with the special literature prepared for nurses by the society.

Efforts should be made to provide speakers for meetings of state nurses' associations and before local nurses' organizations and clubs.

All public health nurses should be provided with the society's special nurses' literature.

A special effort should be made to acquaint all industrial nurses with the facts necessary for their use in advising employees on the subject of cancer.

#### Medical Schools and Colleges.

A special effort should be made through the dean or head of the Department of Pathology to give due attention to instruction of students in the recognition of pre-cancerous conditions. This will require considerable tact in all cases and an excellent beginning would be made by securing their consent to procure and distribute Dr. Greenough's handbook to the students of each senior class.

Those conducting courses in Public Health should have the literature of the society brought to their attention for use with their students.

#### Public Health Association when formed.

These excellent non-official public health agencies are already doing some most effective work. Where such associations exist they should always be asked to cooperate in any campaign started in their states or counties. Made up as they are of representatives of all health and civic organizations, together with prominent members of Chambers of Commerce, Rotary Clubs, manufacturers' associations, labor groups and representatives of the press, the cancer campaign could be conducted by them (with guidance) in its entirety.

#### Association of Industrial Physicians and Surgeons when formed.

Such associations, together with all other organized groups, are circularized from time to time from the office of the National Committee. Much local assistance can be rendered by following up these letters and applying the suggestions in individual plants.

**2. Activities of sub-committee for work with lay or non-professional groups.****(a) Social Workers.**

Contacts should be formed with the heads of all charitable organizations doing home visiting or nursing with the idea of instructing these social workers in regard to early cancer, in order that they may be in a position to advise properly those with whom they come in contact.

Associated Charities, and similar groups, may be willing to cooperate in arranging for public meetings.

**(b) Women's Clubs.**

The organized women's clubs should be specially urged to provide for a discussion of cancer at their annual meetings.

The local clubs should prove of the greatest assistance in arranging public meetings of women to be addressed by qualified physicians.

Many clubs maintain a Public Health Committee and through this much valuable cooperation can be secured by public meetings, holding exhibits, distributing literature, participating in special "health days," etc.

**(c) Chambers of Commerce.**

The Public Health Committee of the Chamber of Commerce should be stimulated to give the cancer control program attention in their public discussions and press bulletins.

Literature on the subject should be provided for distribution to their members and to be picked up by visitors to their rooms. The same applies to the Men's City Club and to the Rotary Club.

**(d) Trades Councils and Unions.**

These industrial groups should be encouraged, through their officers, to allow the subject to be discussed at some of their meetings and be provided with literature for distribution.

**(e) Ministerial and other clerical groups.**

These influential organizations should arrange for a full presentation of the subject before their whole membership.

Opportunity should be sought to have the cancer control progress outlined to church clubs, men's and women's.

Churches will often cooperate in the conduct of public meetings.

**(f) All other organized groups should be made acquainted with the purposes of the society and the information which it is prepared to disseminate. Some of the other organizations which readily come to mind are:**

Fraternal Orders—Young Men's and Young Women's Christian Associations and Young Men's and Young Women's Hebrew Associations.

**Activities of Sub-Committee on Publicity.**

This is one of the most important functions of a local committee and much of the success of the campaign will depend entirely upon the efficiency of this sub-committee. While all possible avenues of publicity cannot be covered, some of the obvious methods to follow are:

(a) First of all cultivate a personal acquaintance with editors of the principal newspapers.

(b) Offer assistance to any of the above groups planning to hold meetings of any kind on cancer by: helping to prepare material for announcement cards, "throw-aways," window posters, newspaper advertising, etc.; preparing and sending out notices to be read in churches, lodges, clubs and similar places, and by assistance in every way in calling the attention of the public to the coming meeting.

(c) Follow up every meeting held by sending a digest of it, carefully prepared, to the newspapers. The editor, if already a friend of the movement, will usually send a competent reporter to cover an important meeting. No chance should be lost to get into the good graces of the best reporters, for they will often prepare the copy themselves if they feel it is appreciated.

(d) Material should be prepared either from the monthly bulletin of the society or other sources, or be written by a qualified practitioner connected with the society, for special news articles or editorial comment in papers.

(e) Where "Health Columns" are run by papers, encourage the editor to devote the space (or part of it) to the cancer control movement from time to time. If it is run in the nature of "Questions and Answers" it can be used to great advantage by asking the editor leading questions on the subject, which will often elicit a rather thorough, popular discussion.

In addition to this description of what may be called the mechanics of educational publicity there is an opportunity for research in the local incidence, the occupational distribution and whatever special etiological factors may be discovered in the trades and industries of Cleveland.

That much can be done to reduce the high incidence of inoperable cancer, one doubts. We know enough about the subject to have no excuse for silence. Ignorance of the resources of preventive surgery and early diagnosis is a direct challenge to our energy, and this ignorance is widespread among all classes of the population.

**THE PREVENTION AND RELIEF OF MENTAL DISEASE**

The need for a local society to promote the interests of the mental hygiene movement is well described in Part VI., together with suggestions for suitable activities. The Women's Protective League is the only private agency dealing with any phase of this problem, and its activities are confined closely to relations with court cases and delinquency.

**THE PREVENTION AND CONTROL OF VENEREAL DISEASE**

The work to be done by a local society along lines so successfully followed by the American and various state Social Hygiene Associations is described in Part V. A nucleus for such an organization was formed in Cleveland and active work during and just after the war. It should be revived and resume its work.



### **SUMMARY OF RECOMMENDATIONS**

#### ***Public Health Services:***

Any repetition of the numerous suggestions or specific recommendations concerning the personnel, organization, authority, functions or performance of the public services which have been analyzed in the previous pages would be superfluous for those whose interest has been aroused by the text.

A few main features will be mentioned to call attention to the relative importance of the recommendations as they appear to the members of the Survey staff.

#### ***General Administration***

Under general administration it is considered to be of chief importance that a Commissioner of Health be appointed whose entire time may be devoted to his duties in the Division of Health, and that the salary be adequate to demand the undivided interest of a trained sanitarian (not less than \$7,500).

Civil service appointments for the entire division are thought to be essential to the best service, in the case of nurses, the Central Nursing Committee to be the agent of the Civil Service Commission in determining fitness of applicants. Medical examination and a probation period of three months for all employees before definite acceptance are advised.

Sanitary areas as defined for Cleveland by the Bureau of the Census should be used as the basis of all administrative districts for health work. The commissioner should hold regular conferences on policies, programs and results, with his chiefs of bureaus. The power to make sanitary rules and regulations should be vested in an advisory board of which the Commissioner of Health is a member, the regulations to have the force of city ordinances.

An assistant or deputy commissioner should have in charge all legal actions taken at the instance of any of the bureaus of the division.

#### ***Bureau of Communicable Disease***

The control of the communicable diseases of animals (other than those used for slaughter) should be vested in this bureau.

A skilled intubator in the employ of the Division of Health is considered a necessity for emergency work in diphtheria.

The service of the district physicians would be greatly improved if the ten recommendations presented are met.

#### ***Bureau of Child Hygiene***

The thorough consideration of the Bureau of Child Hygiene in Part III. makes unnecessary any statement of recommendations here.

#### ***Bureau of Sanitation***

The needs of the Bureau of Sanitation are: a full-time trained chief of the bureau, sufficient sergeants to maintain field supervision of the work, and the assigning of all

tary patrolmen from other bureaus to work under the direction of this bureau, in small districts where they may cover all types of field inspection, functions now served by them in any bureau. The work that should be vigorously prosecuted by this bureau includes enforcement of housing regulations, the making of a sanitary survey of the city especially to locate all privies, private water supplies and stables.

#### *Bureau of Food and Dairy Inspection*

The Bureau of Food and Dairy Inspection should modify its methods for milk control to make use of the bacterial counts of milk as a basis of exclusion of supplies. There should be required the sterilization of containers, discontinuance of holding milk after pasteurization before bottling, and a standard bottle cap to indicate the place and date of production and pasteurization of the milk and the grade. No milk showing counts of over 500,000 bacteria per cubic centimeter in the pasteurized product should be allowed on sale or for distribution.

#### *Bureau of Laboratories*

The Bureau of Laboratories requires the undivided attention of a full-time chief. This bureau should be relieved of its inspectorial functions. Determination of meningococcus in spinal fluids for type, and of pneumococcus in sputum for type should be offered to the laboratory. Specific antisera and vaccines of proved value should be available through this laboratory. Additional activities suitable for this bureau to initiate are proposed in the special chapter on "Patent Medicines."

#### *Bureau of Vital Statistics*

The Bureau of Vital Statistics needs a full-time trained statistician as chief to inaugurate and direct to completion the plan of work presented in the special chapter on this subject.

#### *New Activities*

New activities are considered essential through: the appointment of a Commissioner of Publicity and Research within the Department of Public Welfare to inaugurate and coordinate facilities for health education in Cleveland; the organization of a bureau of institutional inspection or a subdivision of an existing bureau in the Division of Health, to insure adequate sanitation of environment and medical care of inmates of institutions; organization of a bureau of industrial hygiene to protect employes against the hazards of their occupations; the provision of a corps of physicians to make initial medical examinations of all city employes on admission to the city service and periodic re-examinations usually thereafter; the organization of an inspection and treatment service for the control of narcotic drug habitues as required by city ordinance; assumption by the Division of Health of the responsibilities assigned to it by city ordinance in the supervision over day nurseries; provision for sufficient physicians and nurses to permit of inspection of children in the parochial schools in a manner comparable with the service of medical protection given to the children of the public schools.

The Health Centers should be increased in number to sixteen, with appropriate increase in personnel and the functions served in these district offices increased to cover all

field services of the Division of Health and to provide for opportunities for including the private agencies dealing with health protection and for affiliation with hospitals and dispensaries.

The coroner system should be abolished and the system of medical examiners as in existence in Boston and New York adopted.

#### *Private Health Agencies*

It is believed to be of great importance that a Cleveland or Cuyahoga County Public Health Association be formed to give direction and more effectiveness to the efforts of all the public and private agencies in this field.

A secretary for health to act as advisor in health problems to the Director of the Welfare Federation is advised.

For detailed recommendations dealing with the activities of the Anti-Tuberculosis League, the Visiting Nurse Association, the Association for Crippled and Disabled, the Hospitals and Dispensaries the reader is referred to the special parts and chapters devoted to these subjects.

New private committees or agencies are urged, so that public interest and action may be developed in the subjects of Prevention and Relief of Heart Disease, Prevention and Control of Cancer, Prevention and Treatment of Mental Disease and for the Prevention and Control of Venereal Diseases, for all of which projects detailed plans are presented in the appropriate chapters.

## **Appendix**



TABLE I.  
Grand Total Registered Births by Health Districts, 1919

Health Districts	Total Births	Males	Females	Undetermined	Twins	Triplets	Illegitimates	White	Colored	Other	Stillborn	Midwife	Physicians	Other	Native	Foreign	Unknown
1.....	1,723	919	803	1	18	0	17	1,696	16	11	20	637	1,082	4	451	1,264	8
2.....	1,068	566	502	0	6	0	5	1,046	17	5	18	699	364	5	179	883	6
3.....	2,319	1,193	1,123	3	17	1	18	2,305	5	9	40	535	1,781	3	1,328	984	7
4.....	3,652	1,827	1,823	2	42	0	21	3,524	22	6	44	1,650	1,997	5	1,159	2,480	13
5.....	2,980	1,522	1,457	1	33	0	19	2,841	133	6	59	1,117	1,862	1	952	2,020	8
6.....	3,270	1,638	1,631	1	26	0	27	3,217	45	8	76	398	2,871	1	1,644	1,619	7
7.....	1,627	850	775	2	16	0	18	1,607	12	8	23	365	1,261	1	823	797	7
8—University Dist.....	1,659	817	840	2	19	1	45	1,310	333	16	43	489	1,167	3	575	1,060	24
9—Out of City.....	787	403	384	0	4	0	65	753	8	26	14	9	777	1	620	141	26
10—Unknown.....	38	21	13	4	1	0	13	20	2	16	1	4	24	0	11	17	10

TABLE II.  
Deaths From All Causes by Health Districts, 1919

Health Districts	Total Deaths	White	Black	Other	Deaths under 1 year	Typhoid Fever	Smallpox	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Influenza	Kyriopelas	Pulmonary TB.	TB. Other Causes	Syphilis	Gonorrhea	Epidemic Meningitis	Polioomyelitis	Acute and Chronic Bronchitis	Pneumonia Broncho.	Pneumonia All Forms	Diarrhea under 2 years.	Puerperal Septicemia
1	971	947	23	3	181	1	0	7	2	3	11	105	1	86	17	14	1	0	5	5	65	54	76	5
2	642	592	29	0	154	0	0	2	1	7	7	55	1	67	16	6	3	0	1	12	37	55	83	4
3	1,091	1,081	14	1	184	10	0	5	1	3	20	103	1	106	12	21	0	1	2	12	36	56	55	5
4	1,376	1,348	22	0	341	4	0	1	0	4	39	90	0	119	13	14	1	0	1	37	102	106	120	3
5	1,388	1,279	109	0	254	4	0	12	0	6	39	136	4	116	10	12	1	2	3	8	71	90	61	4
6	1,634	1,594	36	1	221	6	0	1	1	4	17	175	1	104	22	12	1	4	11	13	94	95	46	2
7	1,081	1,074	16	0	150	3	0	5	2	3	22	98	0	92	11	9	0	0	2	14	50	68	40	4
8	993	632	368	0	173	0	0	13	0	0	30	100	1	92	16	10	2	0	0	9	71	82	50	2
*9	542	426	22	0	48	1	0	0	0	2	3	45	0	25	7	15	2	2	0	1	16	25	13	3
**10	214	264	34	0	37	2	0	2	0	0	2	34	0	34	2	26	0	0	0	0	6	11	5	0
Total, 9,932	9,237	673	5	1,743	31	0	48	7	32	190	941	9	841	126	139	11	9	25	111	548	642	549	32	
Stillbirths 676																								
*Out of Town.																								
**Unknown.																								

This table is presented exactly as it was received from the Division of Health. No attempt has been made to check figures.

TABLE III.

Communicable Disease Morbidity Reports

Case	1919	1918	1917	1916	1915
Scarlet fever.....	0	1	0	0	0
.....	0	0	0	0	1
Spinal Meningitis.....	73	0	158	46	45
Is.....	0	2	0	0	0
.....	864	577	1,218	989	1,265
.....	2,017	1,371	1,856	1,909	2,030
.....	113	172	308	285	266
.....	0	0	0	0	1
.....	242	89	53	105	26
.....	95	113	110	106	173
Paralysis.....	10	23	35	38	143
.....	4,558	26,998	10	97	118
.....	0	2	4	6	15
.....	2,135	1,234	2,656	4,027	4,294
.....	251	316	809	600	452
Infantile Neonatorum.....	1,140	1,004	1,294	692	601
.....	0	1	1	1	0
.....	1,274	2,440	1,453	1,375	1,606
Fever.....	0	1	2	4	7
.....	2	0	0	0	3
.....	30	19	24	17	35
.....	580	408	618	866	927
.....	232	1,120	661	204	45
.....	512	305	232	257	56
.....	9	11	9	3	5
.....	4	8	3	4	6
.....	72	51	71	74	102
.....	30	50	58	47	57
.....	0	0	1	1	0
.....	1,464	1,606	1,761	1,964	1,619
Fever.....	80	143	206	209	313
.....	0	0	0	0	1
Cough.....	634	1,379	2,140	697	1,201
.....	16,421	39,444	15,751	14,623	15,413



TABLE IV.

## Endemic Indices for Cleveland—Average Cases Reported per Week or Month—Average Mortality per Week or Month.

(Years 1911-17, Inclusive—Average Population 650,000)

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
<i>Typhoid Fever</i>												
Average cases reported per month.....	14	12	13	15	11	12	21	40	38	33	14	12
Average deaths per month.....	2.8	2.3	1.8	2.8	3.3	2.7	3.2	4.0	5.2	6.5	4.3	3.0
<i>Measles</i>												
Average cases reported per week.....	28	34	77	101	113	79	24	6.8	4	5	10	21
Average cases reported per month.....	124	136	342	434	501	337	105	30	17	24.4	44	92
Average deaths per month.....	1.8	3.2	4.5	5.5	7.2	7.2	2.0	1.6	1.0	0.3	0.3	1.4
<i>Scarlet Fever</i>												
Average cases reported per week.....	19	21	17	17	15	12	6	5	7	12	16	15
Average cases reported per month.....	88	84	77	75	66	52	27	23	30	53	67	66
Average deaths per month.....	6.4	5.0	4.1	4.0	3.6	3.2	2.2	1.6	1.7	3.3	4.3	6.6
<i>Whooping Cough</i>												
Average cases reported per week.....	9	16	17	21	21	21	25	18	10	7	7	8
Average cases reported per month.....	42	65	74	91	91	90	110	78	42	31	28	36
Average deaths per month.....	2.7	4.0	4.1	4.5	4.0	4.5	6.2	7.5	4.8	2.5	1.7	2.1
<i>Diphtheria</i>												
Average cases reported per week.....	42	45	36	27	28	24	22	26	43	72	74	57
Average cases reported per month.....	187	179	158	116	123	102	97	116	183	318	316	253
Average deaths per week.....	3.6	3.3	2.6	2.7	2.5	1.8	1.8	1.7	2.8	4.6	4.8	4.4
Average deaths per month.....	16	13	11.6	11.6	11.1	7.7	7.9	7.7	12.1	20.4	20.6	19.3
<i>Influenza</i>												
Average cases reported per month.....	2	2	2	1	0.3	0	0	0	0	1	1	1
Average deaths per month.....	7.4	9.4	11.5	5.3	3.6	1.1	0.4	0.4	1.0	2.5	3.0	5.6
<i>Mumps</i>												
Average cases reported per week.....	9	13	19	20	16	12	4	2	2	3	6	6
Average cases reported per month.....	38	52	82	87	60	40	16	8	7	13	27	26

*Chickenpox*

Average cases reported per week..... 30 28 26 24 20 14 6 3 2 10 21 24  
Average cases reported per month..... 133 110 115 103 89 60 28 12 10 43 92 108

*Rapid Animals*

Average reported per month..... 8 5 9 8 11 10 9 9 8 11 7 8

*Tuberculosis, All Forms*

Average cases reported per week..... 29 32 33 37 36 36 32 28 28 26 25 24  
Average cases reported per month..... 129 129 146 157 161 156 141 126 120 115 105 105

*Tuberculosis, Pulmonary*

Average deaths per week..... 15 17 18 19 19 16 14 14 13 15 14 15  
Average deaths per month..... 66 68 80 81 85 68 62 63 54 65 62 66

*Tuberculosis, Non-Pulmonary*

Average deaths per month..... 13.5 11.4 14.9 12.4 14.1 13.0 13.9 9.0 10.9 9.7 9.9 10.3

*Cerebro-Spinal Meningitis*

Average cases reported per month..... 3 5 7 8 4 4 3 3 3 3 2 2  
Average deaths per month..... 2.3 2.7 4.1 6.6 3.4 2.4 2.2 1.9 2.4 1.6 1.6 1.4

*Infantile Paralysis*

Average cases reported per month..... 1 1 1 1 1 2 5 7 5 5 2 1  
Average deaths per month..... 0.3 0.4 0.1 0.1 0.1 0.6 0.7 1.3 2.3 0.6 0.7 0.7

*Pneumonia, All Forms*

Average cases reported per week..... 45 49 51 44 30 17 8 6 8 16 19 34  
Average cases reported per month..... 201 195 226 187 132 71 36 27 36 69 80 151  
Average deaths per week..... 23 24 24 28 19 10 7 7 7 11 16 19  
Average deaths per month..... 103 94 107 118 83 41 32 31 31 47 69 85

*All Causes*

Average deaths per week..... 188 193 194 188 172 151 167 183 167 162 164 173  
Average deaths per month..... 836 682 854 808 766 649 739 801 718 717 705 766

TABLE V.  
Deaths From Diseases Included in the List on which the Sanitary Index is Based

	Typhoid	Malaria	Smallpox	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Cholera	Dysentery	Krympelas	Mumps, Ger- man Measles, Chickenpox	Septicemia Puerperal Infection	Anthrax	Rabies	Tetanus	Pellagra	Tuberculosis All forms	All deaths under 1 year
1910.....	105	1	2	96	68	38	118	6	5	37	1	57	0	3	7	0	812	2,058
1911.....	85	0	0	38	185	87	129	1	10	33	0	32	2	1	12	0	831	1,788
1912.....	38	2	1	34	99	36	166	0	9	24	0	28	1	2	3	0	789	1,799
1913.....	84	0	0	108	118	69	230	0	3	36	0	35	0	1	9	0	808	2,002
1914.....	54	1	0	24	48	40	162	0	2	17	1	36	0	1	12	0	849	1,946
1915.....	54	0	0	77	72	74	163	0	5	19	4	22	0	2	6	2	864	1,916
1916.....	36	0	0	51	40	44	120	0	3	33	0	35	0	0	9	1	1,022	2,031
1917.....	53	0	2	53	14	129	155	5	5	42	2	46	0	1	9	1	1,208	2,231
1918.....	37	2	0	17	11	65	109	0	6	17	2	21	0	0	9	1	1,189	2,010
1919.....	21	0	0	48	7	32	190	0	0	9	3	49	0	2	8	1	992	1,743
Total.....	567	6	5	546	662	614	1,542	12	48	267	13	361	3	13	84	6	9,364	19,524

TABLE VI.

## Report of District Physicians—1919

	Districts				
	1	2	3	4	5
<i>all Patients</i> .....	673	1,007	1,855	597	1,697
Old.....	135	14	201	34	114
New.....	538	993	1,654	563	1,583
<i>all Calls (On the above)</i> .....	2,559	1,979	2,948	1,173	1,737
Home.....	2,035	1,628	2,403	1,157	1,307
Office.....	524	351	545	16	430
Number of calls per case.....	3.8	1.96	1.58	1.96	1.02
<i>Miscellaneous, not included in the above</i>					
Wrong address.....	26	7	91	41	26
Not found.....	25	12	77	40	15
Not ill.....	0	0	59	11	20
Death Certificates.....	55	51	66	118	62
Contagious Investigation.....	245	83	169	370	155
Board of Education, etc.....	169	0	0	181	76
Vaccinations.....	4,523	474	949	1,554	5,129
<i>Distribution of Cases</i>					
Continued.....	37	11	103	39	79
Discharged.....	247	846	1,564	392	1,059
Died.....	13	10	32	5	5
To nurse.....	79	0	358	16	191
To hospitals.....	146	122	152	83	188
To dispensaries.....	129	31	127	42	60
To dentists.....	38	0	12	1	17
To private physicians.....	0	0	0	21	13
To correctional agencies.....	8	0	0	4	5
To relief agencies.....	7	0	6	6	37
Percent of total cases referred to hospitals dispensaries, private physicians.....	40.8	15.2	15.04	24.5	15.4

Calls out of district

(Included in home calls above.)

TABLE VII.  
Shippers (Raw Milk) 1919

AVERAGES				PERCENT BELOW STANDARD				SEDIMENT TESTS				
Year	Total No. of samples	By lactometer test	By fat test	By total solids test	By lactometer test	By fat test	By total solids test	By bacterial count over 50,000 per c. c.	Clean	Fairly clean	Dirty	Fatty
1914	20,575	30.7%	3.5%	12.1%	4.5%	4.4%	43.3%	.....	1.0%	83.5%	15.1%	0.4%
1915	10,387	30.8%	3.5%	12.1%	2.5%	4.2%	41.8%	.....	4.4%	73.8%	21.0%	0.8%
1916	13,225	30.5%	3.4%	11.8%	3.5%	5.3%	42.0%	43.7%	2.9%	56.7%	36.8%	3.5%
1917	8,103	30.4%	3.5%	11.8%	7.0%	5.1%	37.7%	43.8%	5.2%	54.0%	35.2%	4.0%
1918	7,240	30.8%	3.5%	12.0%	3.8%	5.0%	42.4%	.....	8.0%	70.2%	20.0%	1.8%
1919	10,016	31.8%	3.5%	12.2%	2.5%	5.7%	24.6%	.....	0.8%	78.8%	17.3%	3.7%

TABLE VIII.  
Dealers (Pasteurized Milk) 1919

Year	Total No. of samples	AVERAGE			PERCENT BELOW STANDARD			SEDIMENT			
		By lactometer test	By fat test	By total solids test	By lactometer test	By fat test	By total solids test	Clean	Fairly clean	Dirty	Filthy
1914	2,971	30.9%	3.3%	11.9%	2.3%	9.2%	52.7%	1.4%	86.4%	11.6%	0.6%
1915	3,445	30.9%	3.3%	11.8%	1.5%	7.6%	58.3%	6.8%	85.5%	7.5%	0.2%
1916	2,004	31.0%	3.3%	11.8%	1.8%	6.4%	47.8%	16.8%	64.9%	18.3%	0.6%
1917	1,927	31.2%	3.3%	12.2%	4.9%	6.9%	55.6%	24.6%	58.3%	16.1%	0.8%
1918	1,186	30.4%	3.3%	11.7%	6.1%	8.1%	65.0%	24.8%	65.0%	9.5%	0.7%
1919	2,229	31.8%	3.3%	11.9%	10.7%	5.0%	40.6%	12.9%	71.5%	14.5%	1.1%

\*318 samples.

Standards: Lactometer, city standard 29.0%.

Fats, city standard 3.0%.

Total solids, state standard 12%, city standard 11.5%.

Bacteria, according to regulation 500,000 per c.c., 50,000 being enforced.

Sediment, divided into clean, fairly clean, dirty and filthy. Passable is clean or fairly clean, dirty and filthy being below standard.

TABLE IX.

**Synopsis of Classified Report of Bacteriological Examination of Cleveland Market Milk**

"The age of the milk after pasteurization is indicated as nearly as possible by "Fresh" if less than 24 hours after pasteurization, and by "24 hours" if bottled for that period or longer.

## Group I.—12 samples:

Class A—3 samples

Class B—8 samples

Class C—1 sample

## Group II.—54 samples:

Class A— 6 samples

Class B—28 samples

Class C—20 samples

## Group III.—34 samples:

Class A— 1 sample

Class B—18 samples

Class C—15 samples

Patron Class	Milk Age	Bacteria Count	Patron Class	Milk Age	Bacteria Count
Group I.			Group II.		
Class A			Class A		
Y.	Fresh	20,500	Y.	Fresh	35,000
X.Y.	24 hrs.	20,000	X.	Fresh	32,000
X.	Fresh	10,000	X.	Fresh	16,000
Class B			Y.	Fresh	2 spreaders
X.Y.Z.	Fresh	114,000	Y.	Fresh	20,000
X.	Fresh	116,000	Y.Z.	Fresh	19,000
X.	Fresh	97,000	Class B		
X.Y.Z.	Fresh	109,000	Z.	Fresh	224,000
X.Y.Z.	Store	223,000	Y.	Fresh	65,000
Y.Z.	Fresh	70,000	Y.	Fresh	72,000
X.Y.Z.	Fresh	58,000	X.	Fresh	115,000
X.	Fresh	214,000	Z.	Fresh	320,000
Class C			Y.	Fresh	65,000
Y.	24 hrs.	Over 500,000	Z.	Fresh	120,000
			Z.	Fresh	130,000
			Y.	Fresh	225,000

## Group II.—(Continued)

24 hrs.	490,000	
Fresh	256,000	
Fresh	107,000	Y.
24 hrs.	15,000	
24 hrs.	117,000	
Fresh	35,000	Y.
Fresh	95,000	Z.
Fresh	234,000	Z.
Fresh	56,000	Z.
Fresh	261,000	Y.
Fresh	108,000	Y.
Fresh	55,000	Y.
24 hrs.	95,000	Z.
Fresh	74,000	Y.Z.
24 hrs.	420,000	Z.
24 hrs.	400,000	Z.
Fresh	60,000	Z.
Fresh	104,000	Y.
Fresh	115,000	Y.
Class C		Y.
Fresh	Over 500,000	Z.
Fresh	Over 500,000	X.
Fresh	Over 500,000	
Fresh	Over 500,000	
Fresh	Over 500,000	
Fresh	Over 500,000	X.
Fresh	Over 500,000	Z.
Fresh	Over 500,000	Z.
Fresh	Over 500,000	Z.
Fresh	Over 500,000	Z.
24 hrs.	Over 500,000	Z.
24 hrs.	Over 500,000	Z.
24 hrs.	Over 500,000	Y.
24 hrs.	Over 500,000	Z.
24 hrs.	Over 500,000	Z.
24 hrs.	Over 500,000	Z.
Fresh	Over 500,000	Z.
Fresh	Over 500,000	Y.Z.
Fresh	Over 500,000	Y.
24 hrs.	Over 500,000	Y.

## Group III.

Class A	
Fresh	26,000
Class B	
Fresh	150,000
Fresh	300,000
Fresh	91,000
Fresh	1,000
Fresh	210,000
24 hrs.	97,000
Fresh	143,000
Fresh	7,000
Fresh	71,000
Fresh	55,000
Fresh	140,000
24 hrs.	135,000
Fresh	434,000
24 hrs.	156,000
Fresh	95,000
Fresh	180,000
Fresh	109,000
Fresh	136,000
Class C	
Fresh	Over 500,000
Fresh	Over 500,000
Fresh	Over 500,000
Fresh	Over 500,000
Fresh	Over 500,000
Fresh	Over 500,000
Fresh	Over 500,000
Fresh	Over 500,000
24 hrs.	Over 1,000,000
Fresh	Over 500,000
Fresh	Over 500,000
Fresh	Over 500,000
24 hrs.	Over 500,000
24 hrs.	Over 500,000



## Reference Tables on the Movements of the Population of Cleveland\*

TABLE X.

Rank and growth of the population of Cleveland, in comparison with twenty other cities, 1900 to 1920

City	1920		1910		1900	
	Population	Rank	Population	Rank	Population	Rank
Cleveland.....						
New York.....						
Chicago.....						
Philadelphia.....						
Etc.....						

This table is intended for census years primarily but may be used for intercensal years on the basis of Census Bureau estimates.

TABLE XI.

Principal color, nativity and parentage classes of the population. Percentage of total, and rate of growth of each class, 1900 to 1920

Class of Population	1920			1910		
	Popula- tion	Per Cent of Total	Per Cent Increase Since 1900	Popula- tion	Per Cent of Total	Per Cent Increase Since 1900
Total						
White—						
Native-born—						
Of native parentage....						
Of for. or mxd. ptge.....						
Foreign-born.....						
Negro.....						
Other Colored—						
Chinese.....						
Japanese.....						
Others of this class.....						

This table is intended for census years primarily but may be used occasionally for intercensal years for the calculation of differential birth rates and death rates for each class of the population.

\* In such of the following tables as subdivisions of the city are used for the tabulation of population, morbidity, mortality, etc., it is recommended that the sanitary areas (131), as established by the Bureau of the Census for Cleveland, be used in preference to wards or other political or administrative districts of the city's area. This will affect Tables XV., XVII., XX., XXI., XXII., XXVII., XXXIII., XXXV., XXXVI.

### TABLE XII.

Number and percentage of population in each age period, by sex, 1910 and 1920

Age	1920				1910			
	Males		Females		Males		Females	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent
Total								
Under 5.....								
Under 1.....								
.....								
.....								
.....								
to 9.....								
tc., to 95 and over.....								

For census years primarily, but should be used also intercensally to show the basis for ge, death rates and also for fecundity rates; *i. e.*, births per 1,000 women at the child-bearing ages, 15 to 45 years.

### TABLE XIII.

**Number and percentage of population in specified marital condition classes,  
by sex and age, 1920**

Age Period and Sex	Total		Single		Married		Widowed		Divorced	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent
5 years and over—										
Male.....		100.0								
Female.....		100.0								
to 24 years										
Male.....		100.0								
Female.....		100.0								
to 44 years										
Male.....		100.0								
Female.....		100.0								
to 64 years										
Male.....		100.0								
Female.....		100.0								
years and over										
Male.....		100.0								
Female.....		100.0								

This is for the census years only and the figures may be made the basis of the calculation of death rates by sex and marital condition at each age period.

TABLE XIV.

Country of origin of the foreign white stock in the population of Cleveland

Country of Origin	Total Foreign White Stock		Foreign Born White	Native White of Foreign or Mixed Parentage		
	Number	Per Cent		Total	Both Parents Born in Specified Country	One Parent Native, Other Born in Specified Country*
All foreign countries.....		100.0				
(List countries here)						
Foreign or mixed Parentage*						

\*For native whites whose parents were born in different foreign countries included in last line.

This table is intended for census years only and may be made the basis of computation of death rates in 1920 of the various foreign born stocks in the city.

TABLE XV.

Ward or "sanitary district" population of the city of Cleveland, 1920

Item	Total City	Ward or Sanitary District				
		1	2	3	4	Etc.
Total population—						
Male.....						
Female.....						
White—						
Native-born						
Of native parentage						
Of for. or mxd. ptge.						
Foreign-born.....						
Negro.....						
Chinese and Japanese.....						
Foreign-born white.....						
Born in						
(List countries here)						
Land area (acres).....						
Persons per acre.....						
Dwellings (number).....						
Families (number).....						
Persons per family.....						

This table is for census years only and may be used as a basis for educational and Americanization work, especially in those wards where the foreign-born live. Transit and park facilities may also be gauged therefrom.

TABLE XVI.

Number of persons 10 years of age and over gainfully employed in specified occupations. By sex and age.

Occupation	Total	Males				Females			
		Total	10 to 16	16 to 19	Etc.	Total	10 to 16	16 to 19	Etc.
All occupations..... (Abbreviated list of occupations and industries— about 50 titles)									

This table is for census years only. It is planned also to tabulate the occupations of the deceased of 1920 in a similar manner to permit the computation of death rates for the more important occupations of the city.

TABLE XVII.

Estimated population of the city of Cleveland and of its subdivisions, 1920 to 192—

Ward or Sanitary Area	1925	1924	1923	1922	1921	1920	1910
Total.....							
Ward 1.....							
Ward 2.....							
Ward 3.....							
Etc.....							

This table is required each year and is based on arithmetic increase of population during the last decade. If this can be proved reliable, it becomes the denominator of all important measures of the movement of population in each ward of the city, including marriage rates, birth rates, death rates, sickness rates, etc.

TABLE XVIII.

Number of livebirths and birth rates (a) per 1,000 of total population, and (b) per 1,000 women of childbearing age

(1) Year	(2) Births	(3) Birth Rate per 1,000	(4) Birth Rate per 1,000 Women 15-44	(5) Number of Stillbirths	(6) Per Cent Stillbirths of Total Live and Stillbirths
25.....					
24.....					
23.....					
22.....					
21.....					
20.....					

This is a permanent table and may be used to advantage to detect the trend of the birth rate and to control the waste of stillbirths which may be looked upon as an important element in infant mortality.

TABLE XIX.

Number of livebirths, by sex of child, color and nativity of parents, each month in 192—

	Month	Total	Sex of Child		Parent Nativity and Color				
					White			Colored (8)	Color Unknown (9)
			Male (3)	Female (4)	Foreign (5)	Both Parents Native (6)	One Parent Native, Other Foreign (7)		
Total year...									
January...									
February..									
March.....									
April.....									
May.....									
Etc.....									

This table is permanent and should be the basis of infant welfare work by departmental agencies, such as clinics, visiting nurses, etc.

TABLE XX.

Number of livebirths by nativity of white mothers in specified wards, 192—

Country of Birth of Mother of Child	Total City	Ward 1	Ward 2	Ward 3	Etc.
All mothers—					
United States.....					
Great Britain.....					
Etc.....					

This table supplements the following one and is especially useful to determine the educational work required to obtain the cooperation of mothers for better obstetrical service, clinic attendance, etc.

TABLE XXI.

Number of livebirths by color and nativity of mother, attendant at birth; also number of stillbirths, in 192—

Ward or Sanitary Area	Total	Nativity and Color of Mother				Attendant at Birth			No. of Stillbirths
		White			Colored	Color Unknown			
		Foreign Born	Both Parents Native	One Parent Native, Other Foreign			Physician	Midwife	
Total city.....									
Ward 1.....									
Ward 2.....									
Ward 3.....									
Etc.....									

This table is permanent and, like table XIX., is useful as an indicator of the work to be done by the department agencies. It

TABLE XXII.

Number of livebirths in specified districts by calendar months

Ward or Sanitary Area	Total Year	Jan.	Feb.	Mar.	Apr.	Etc.
Total.....						
Ward 1.....						
Ward 2.....						
Ward 3.....						
Etc.....						

■ This table will prove a useful check on the attendance of mothers at maternity and infant welfare stations in the various sections of the city during the course of the year.

TABLE XXIII.

Illegitimate births by color and nativity of parents, 192—

Ward or Sanitary Area	Total	WHITE			Colored	Color Unknown
		Foreign Born	Native			
			Both Parents Native	One Parent Native, Other Foreign		
Total.....						
Ward 1.....						
Ward 2.....						
Ward 3.....						
Etc.....						

This table may be tried out for one or two years for the city as a whole. If returns are fairly complete, the fuller tabulation by wards may be given. This may prove to be a very useful instrument for the social service agencies of the city in indicating where illegitimacy prevails and the peoples who contribute most to this problem. The figures will serve also to compute the infant mortality rate of illegitimate children.

TABLE XXIV.

Deaths of infants under one year of age. Principal causes of infant mortality, by wards, 192—

Cause of Death	Total	Ward 1	Ward 2	Ward 3
All causes.....				
Abridged list of causes.....				

This table is permanent and is the keystone of the whole plan of infant welfare work of the department. It determines where the chief infant mortality occurs and the causes of such mortality, whether from diarrheal, respiratory, or other infections, a preventable disease, or particularly from congenital causes indicating poor obstetrical or prenatal service.

TABLE XXV.

Deaths of infants under one year of age, by sex and age periods for principal causes of death

Cause of Death	Total	Less Than 1 Day	1 Day	2 Days	3 Days	4 Days	5 Days	6 Days	1 Wk.	2 Wks.	3 Wks.	4 Wks.	2 Mos.	3 Mos.	4 Mos.	5 Mos.	6 Mos.	Etc.	12 Mos.
All causes of death— Males..... Females..... (Then abridged list of causes with sex distinction)																			

This table supplements Tables XXIV and XXVI and indicates when the departmental facilities must be most available.



TABLE XXVI.

Deaths of infants under one year of age, by calendar months and by causes of infant mortality, 192—

Cause of Death	Total Year	Jan.	Feb.	Mar.	Apr.	Etc.
All causes..... (Ten abridged list of causes)						

This table supplements table XXIV. and locates the departmental service to be rendered in time of year.

TABLE XXVII.

Deaths of infants under one year of age, per 1,000 livebirths (infant mortality rates). For principal causes of death. By specified districts.

Cause of Death	Total City	District 1	District 2	District 3	Etc.
All causes..... (Then abridged list)					

This table is a composite of tables XX. and XXIV. above. The rates are more definite than the absolute numbers of table XXIV. in indicating where conditions are most serious—although the figures of the previous tables must be used as well to show the size of the problem in each area.

TABLE XXVIII.

Deaths and death rates per 100,000 from principal diseases in Cleveland

Cause of Death	No. of Deaths	Death Rate per 100,000 Population	
		19—	1915-1919
All causes of death..... (Then give detailed list of causes of death)			

This is a permanent table and fundamental to the work of the health department. It indicates what diseases and conditions are especially serious in the mortality experience of the city. The comparison between the year in question and the previous five-year period, 1915 to 1919, indicates the trend of the death rate for the several causes.

**TABLE XXIX.**

**Number of deaths from principal causes of death, by age period**

Cause of Death	All Ages	Under 1	1	2	3	4	Total Under 5	5 to 9	Etc.
11 causes—total (Detailed list of causes of death)									

This table supplements table XXVIII. and indicates the age periods wherein most of the deaths occur from each of the causes. These two tables will serve to formulate the general policy of the department in its attack on the more important diseases and conditions. They both cover the city as a whole.

**TABLE XXX.**

**Number of deaths from principal diseases in wards during 192—**

Cause of Death	Total City	Ward 1	Ward 2	Etc.
11 causes of death (Then abridged list of causes of death)				

This table shows the wards in which the problems outlined in the previous two tables may be more profitably attacked.

**TABLE XXXI.**

**Number of deaths from principal diseases, by calendar months**

Cause of Death	Total Year	Jan.	Feb.	Mar.	Apr.	May	Etc.
11 causes—total (Then abridged list of causes of death)							

This table will direct the attention of the health officer to the months of the year in which more of the preventable diseases cause death. Campaigns of control may thus be prepared and instituted prior to the period of highest incidence.

TABLE XXXII.

Deaths and death rates per 100,000, by sex and by age, 1920

AGE	MALES			FEMALES		
	Population	Deaths	D. R. Per 100,000	Population	Deaths	D. R. Per 100,000
All ages.....						
Under 1.....						
1 to 4.....						
5 to 9.....						
10 to 14.....						
15 to 19.....						
20 to 24.....						
25 to 34.....						
35 to 44.....						
45 to 54.....						
55 to 64.....						
65 to 74.....						
75 and over.....						

This table is intended for use only in census years and points out the conditions of mortality in each sex in the various age periods of life. Its greatest use will consist in giving the basis for the construction of decennial life tables.

TABLE XXXIII.-A, B, C, Etc.

Deaths and death rates per 100,000, from certain diseases,\* by wards or sanitary districts, for years 1915 to 1919

Ward	192—		1915-1919	
	Deaths	Death Rate	Deaths	Death Rate
Total city.....				
Ward 1.....				
Ward 2.....				
Etc.....				

\*Typhoid, tuberculosis, measles, scarlet fever, whooping cough or other diseases.

Table XXXIII. is one of a series, each one relating to a cause of death, such as typhoid fever, tuberculosis, whooping cough, measles, scarlet fever, diarrhea and enteritis, automobile accidents and, in fact, any other condition which is subject to the control of the health authorities. The figures indicate the number of deaths annually and the death rate in each one of the several wards of the city. Comparison with the five-year period, 1915 to 1919, makes it possible to determine the effectiveness of the control against the diseases in each of the several wards.

TABLE XXXIV.

Number of deaths of persons in specified color, nativity and parentage classes, by sex and age

Color, Nativity, Parentage	All Ages	Under 1	1	2	3	4	Under 5	5 to	Etc.
Total—									
Male.....									
Female.....									
White—total									
Male.....									
Female.....									
Native-born—									
Male.....									
Female.....									
— of native									
parentage—									
Male.....									
Female.....									
— of foreign									
and mixed par-									
entage—									
Male.....									
Female.....									
Foreign-born—									
Male.....									
Female.....									
Colored—total									
Male.....									
Female.....									
Negroes—									
Male.....									
Female.....									
Other Colored—									
Male.....									
Female.....									

This table will be most useful for census years, although it should be available for intercensal years as well as a reference table. Coupled with the data available in the census publications, it will make possible the construction of life tables for each one of the chief classes of population.

TABLE XXXV.

Cases and deaths from notifiable diseases, by wards or sanitary areas, 19

Disease	Total City		Ward 1		Ward 2		1
	Cases	Deaths	Cases	Deaths	Cases	Deaths	
Typhoid fever.....							
Etc.....							

This table should be available not only annually but for shorter periods, pe monthly, and certainly quarterly. It indicates where the notifiable diseases are pre and shows also from the relation of cases to deaths how serious the cases. An addi column may be added to show the lethal rate for each one of the diseases.

TABLE XXXVI.-A, B, C,\* Etc.

Cases of notifiable disease in each ward or sanitary area, by calendar month, 1

Year	Total Year	Jan.	Feb.	Mar.	Apr.	May	E
Total.....							
Ward 1.....							
Ward 2.....							
Etc.....							

\*One table for each disease

Table XXXVI. supplements table XXXV. and indicates the seasonal distributi the several notifiable diseases in each ward. This is an annual table.

TABLE XXXVII.

Number of marriages and divorces and rate per 1,000 of population by mo

Month	Marriages		Divorces	
	Number	Rate per 1,000 of Population	Number	Rate per 1,000 of Populati
Year				
January.....				
February.....				
March.....				
April.....				
May.....				
June.....				
July.....				
August.....				
September.....				
October.....				
November.....				
December.....				

**TABLE XXXVIII.**  
**Number of marriages by age of groom and bride**

[illegible]

**TABLE XXXIX.**  
**Results of Medical Examinations of Children in Institutions**

	Capacity	Children Examined	Found Normal	Found to have one or more defects
d P. O. Asylum.....	68	22	1	21
h's Orphan Asylum.....	236	41	1	40
d Christian Orphanage.....	46	9	1	8
the Holy Family.....	37	10	0	10
n Home.....	104	16	0	16
afant Orphan Asylum.....	72	12	0	12
rphan Asylum.....	473	74	3	71
t. Mary's.....	152	25	1	24
s Infant Asylum.....	100	15	1	14
's Orphanage.....	20	6	3	3
ome.....	75	12	1	11
ent's Orphan Asylum.....	236	38	0	38
the Good Shepherd.....	185	34	0	34
1 Army Rescue Home.....	17	4	0	4
's Aid Society.....	103	24	2	22
ost Orphanage.....	14	4	0	4
urm.....	42	10	0	10
School for Friendless Girls.....	30	9	0	9
e Horstmann Home.....	22	6	0	6
	<hr/> 2,032	<hr/> 371	<hr/> 14	<hr/> 357
stitutions—19.				

TABLE XL.

NAME OF INSTITUTION	DEFECTS ITEMIZED																								Total No. of defects found							
	Column 1, children resident under 6 months; 2, resident over 6 months.																															
	Vision		Hearing		Teeth		Nasal Breathing		Tonsils		Nutrition		Heart		Lungs		Orthopedic		Nervous		Miscellaneous											
Normal children resident under 6 mos.	Normal children resident over 6 mos.	Defective children resident under 6 mos.	Defective children resident over 6 mos.	Total number of children examined	Total number found normal	Total number found defective	Total defects in resident under 6 mos.	Total defects in resident over 6 mos.	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2						
Cleveland P. O. Asylum.....	0	1	12	9	22	1	21	28	23	1	3	1	0	3	3	5	2	8	5	3	2	1	0	0	1	5	7	0	1	0	51	
St. Joseph's Orphan Asylum.....	0	1	21	19	41	1	40	90	44	3	8	0	1	14	3	16	7	13	1	16	12	2	6	1	1	9	3	0	1	16	1	134
Cleveland Christian Orphanage.....	0	1	4	4	9	1	8	14	16	0	1	0	1	3	2	2	3	0	0	2	0	1	0	0	4	3	1	1	1	3	30	
House of Holy Family.....	0	0	1	9	10	0	10	3	29	0	1	0	0	1	7	0	3	1	6	0	1	0	0	0	2	1	7	0	0	2	32	
Detention Home.....	0	0	13	3	16	0	16	50	11	7	2	1	0	8	2	7	0	8	2	6	1	1	0	1	0	10	2	0	1	2	61	
Jewish Infant Orphan Home.....	0	0	4	8	12	0	12	15	25	0	0	0	0	2	5	4	5	2	5	1	2	0	0	2	1	4	7	0	0	0	40	
Jewish Orphan Asylum.....	0	3	43	28	74	3	71	176	76	15	12	2	2	34	11	25	8	21	7	15	12	2	3	4	2	33	11	2	0	23	8	252
Mt. St. Mary's.....	1	0	11	13	25	1	24	38	45	4	3	0	1	5	6	2	7	6	7	6	5	1	1	0	1	5	5	0	9	9	83	
St. Ann's Infant Asylum.....	1	0	6	8	15	1	14	26	22	0	0	0	0	1	0	6	6	2	2	5	2	1	3	1	0	4	3	0	6	6	48	
St. John's Orphanage.....	1	2	1	2	6	3	3	4	3	0	1	0	0	0	1	1	0	1	0	0	0	1	0	0	1	1	0	0	0	0	7	
Jones' Home.....	0	1	5	6	12	1	11	17	18	0	4	0	0	2	3	3	3	3	2	3	2	1	1	0	0	2	2	0	3	1	35	
St. Vincent's Orphan Asylum.....	0	0	16	22	38	0	38	57	74	1	11	0	1	11	12	9	7	4	1	7	13	0	1	3	2	12	16	0	10	10	131	
House of Good Shepherd.....	0	0	17	17	34	0	34	43	61	7	10	0	0	10	16	0	0	0	6	1	9	1	0	0	0	13	11	1	0	9	104	
Salvation Army Rescue Home.....	0	0	4	0	4	0	4	11	0	9	0	0	0	3	0	2	0	2	0	1	0	0	0	0	0	0	0	0	1	0	11	
Children's Aid Society.....	1	1	11	11	24	2	22	39	36	2	6	0	0	7	4	6	5	8	6	5	5	2	1	0	0	3	7	0	6	2	75	
Holy Ghost Orphanage.....	0	0	2	2	4	0	4	6	2	0	0	0	0	2	0	1	1	0	0	0	0	0	0	0	0	1	1	0	0	2	8	
Girl's Farm.....	0	0	5	5	10	0	10	12	15	1	4	0	0	3	2	0	1	1	1	1	1	0	0	0	0	3	4	0	3	3	27	
Training School Friendless Girls.....	0	0	3	6	9	0	9	6	16	2	1	0	0	0	0	0	1	2	2	1	2	0	1	0	0	0	3	0	0	1	6	22
Catherine Horstmann Home.....	0	0	3	3	6	0	6	9	5	2	0	0	0	0	0	1	0	1	1	2	1	0	0	1	0	1	1	0	0	1	2	14
Total.....	4	10	182	175	371	14	357	644	521	54	67	4	6	109	77	90	58	86	54	73	71	13	18	13	11	111	93	4	2	94	64	1,165

TABLE XLI.

## Sanitary Summary

No. of Institutions			
		Inadequate fire protection.....	12
		No fire drills.....	9
		Improper fire escapes.....	8
		No regular fire drills.....	8
		Fire extinguishers unfit.....	4
		Obstructed fire escapes.....	2
		No fire extinguishers.....	1
ing.....	6		
ot screened.....	3	Leaky plumbing.....	5
eparated.....	2	Enclosed plumbing.....	2
ound.....	1		
wo in a bed.....	7	Inadequate light in classrooms.....	8
placed beds.....	4	Inadequate light in toilets.....	3
ed springs.....	3	Inadequate light in playrooms.....	2
ds.....	2		
d linen.....	1	Poor ventilation in toilets.....	11
ed in common.....	2	Poor ventilation in other rooms.....	8
othing used without first		Unventilated closets.....	2
it.....	1	Poor ventilation in schoolroom.....	1
n common.....	18	Poor ventilation in playroom.....	1
oller towel.....	9		
towels and wash cloths not		Improper refrigeration of food.....	7
.....	8	Worn oilcloth on dining room tables.....	4
combs and hair brushes not		Kitchen tables not zinc covered.....	4
.....	8		
lavatory and toilet facili-		Unguarded laundry and other machin-	
.....	7	ery.....	9
toilets.....	4	Dry sweeping.....	6
bathing facilities.....	4	Defective plastering.....	4
ldren bathed simultaneously		Defective flooring.....	4
ub.....	3		
ilets for both sexes.....	2	Backless benches used in classroom.....	5
basins.....	2	Unsanitary school desks.....	2
g fountains.....	9		
rinking cups.....	8		



TABLE XLII.

*SUMMARY OF PHYSICAL EXAMINATION OF BOARDED-OUT CHILDREN*

Total number examined—57. Normal—4. Defective—53.

Vision	Hearing	Teeth	Nasal Breathing	Tonsils	Nutrition	Cardiac	Pulmonary	Orthopedic	Nervous	Miscellaneous
7	0	28	29	24	26	3	3	20	0	29
Miscellaneous Defects										
Cervical Glands.....				23						
Conjunctivitis.....				1						
Ringworm.....				1						
Enlarged Thyroid.....				2						
Adenoids.....				1						
Epitrochlear Glands.....				1						
				—						
				29						

The sanitary conditions in these boarding homes were not included in this study.

# **THE CLEVELAND HOSPITAL AND HEALTH SURVEY REPORT**

## **List of Parts and Titles**

- I. Introduction.  
General Environment.  
Sanitation.**
- II. Public Health Services.  
Private Health Agencies.**
- III. A Program for Child Health.**
- IV. Tuberculosis.**
- V. Venereal Disease.**
- VI. Mental Diseases and Mental Deficiency.**
- VII. Industrial Medical Service.  
Women and Industry.  
Children and Industry.**
- VIII. Education and Practice in Medicine, Dentistry, Pharmacy.**
- IX. Nursing.**
- X. Hospitals and Dispensaries.**
- XI. Method of Survey.  
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# A Program for Child Health

## PART THREE

Cleveland Hospital and  
Health Survey



# A Program for Child Health

## PART THREE

Cleveland Hospital and  
Health Survey

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## Preface

Hospital and Health Survey of Cleveland was made at the request of the Cleveland Hospital Council.

The Survey Committee appointed to be directly responsible for the work and through whose hands this report has been received for publication consisted of the following:

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THOMAS COUGHLIN,  
RICHARD F. GRANT,  
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The expenses of the Survey and of the publication of the report have been met by appropriations received from the Community Chest, through the Cleveland Federation, of which the Hospital Council is a member.

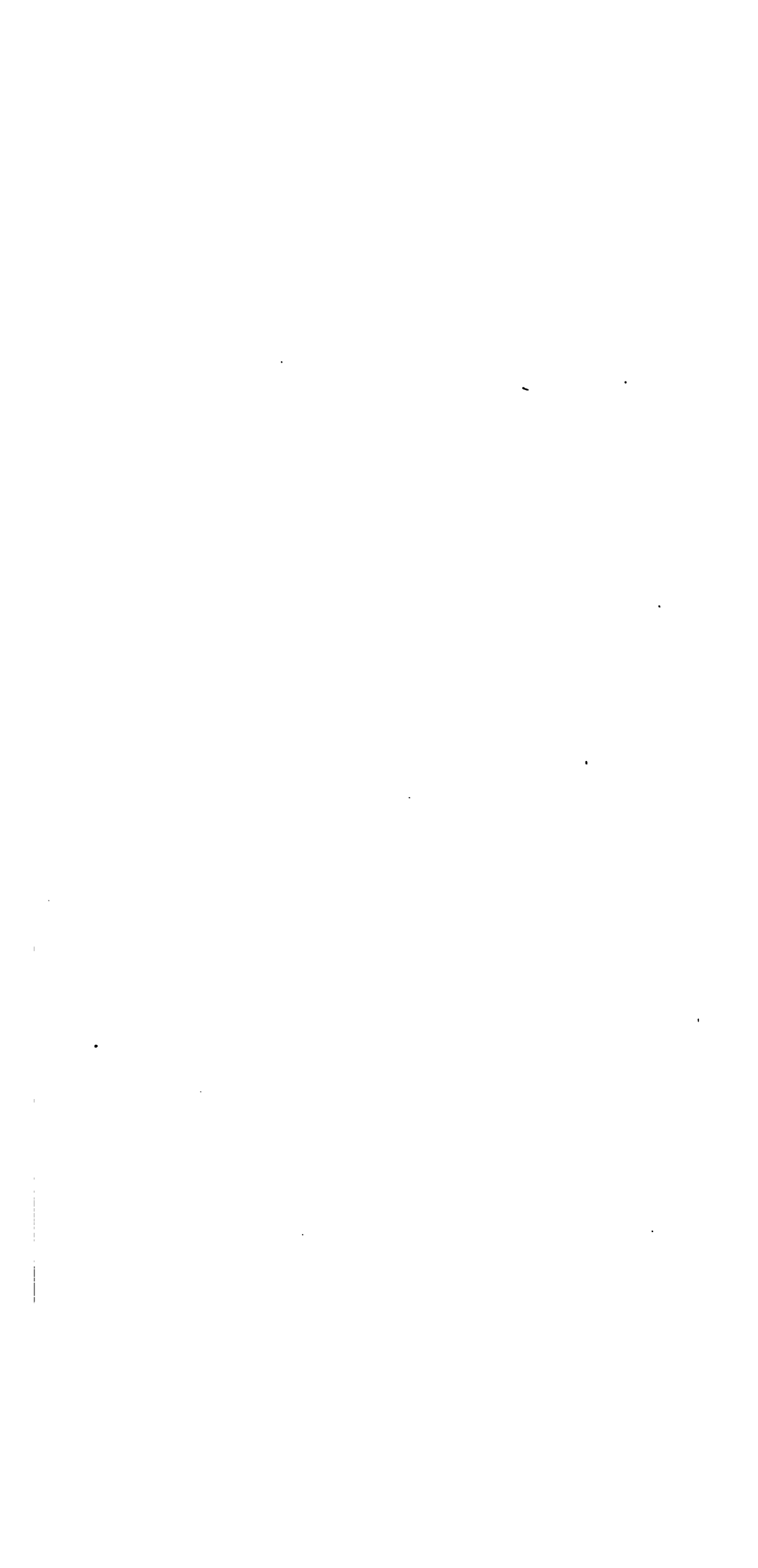
The report as a whole, or by sections, can be obtained from the Cleveland Hospital Council. A list of the parts will be found in the back of this volume, with prices.





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# Program for Child Health Work in Cleveland\*

BY JOSEPHINE BAKER, M. D., D. P. H.

*"The aim of hygiene in  
general is to render  
growth more perfect,  
decay less rapid, death  
more remote and life  
more vigorous and suc-  
cessful."*

Planning a program for future child health work in Cleveland, it has been considered essential, first, to analyze the work as it is carried on at present time; second, to discuss certain basic needs, and third, to suggest measures that should be instituted to obtain more effective

## Present Organization

The Survey has emphasized the lack of strong central control and coordination of the activities for child welfare as a whole. Public health agencies are, in many instances, carrying on service of excellent and distinct merit, but these activities are limited in extent and, with possible exception (the hospital maternity service) they are inadequate to meet the self-evident needs of the child population of Cleveland. Lack of coordination by each agency with other agencies or as part of a general health program of the community, and the absence of a definite or continuous, adequate and progressive action, are detrimental to the effectiveness of each group. Some of the children of Cleveland are getting at certain periods of their growth a type of care that is excellent and should be commended, but the unrelated functions of the various health agencies have left children as a whole without that comprehensive oversight which alone can guarantee the type of good health that is desirable throughout life.

With the exception of the prenatal work and certain parts of the work in the prophylactic baby-health stations, the Survey would seem to indicate that there is lack of preventive health functions. Emphasis has been laid on corrective work and there is too great a tendency to view immediate results as justifying or proving the effectiveness of the

The collection of the information from which this report was prepared the author is indebted to her colleagues, and their assistants, in the other subjects of the Survey. The author wishes to express appreciation particularly for the studies contributed by Gertrude Sturges, M. D., Michael J. Anna Richardson, M. D., Miss Josephine Goldmark, Miss Elizabeth Fox, Miss Janet Bess, and Miss Florence V. Ball.

methods employed. Intensive effects often unconsciously interfere with proper perspective. Extreme specialization has, in some instances, resulted in too great concentration upon the activity and not enough upon the child as a whole. Treating disease is essential. Removing diseased tonsils and filling decayed teeth are important activities, but the full fruition of normal and sound health cannot be achieved by these methods alone, however well they may be performed. The admirable work that is being carried on should receive its full measure of praise. On the other hand, we cannot ignore the fact that the present facilities are inadequate in extent, that in some instances they are not functioning effectively, and that the lack of unity of purpose and central control has resulted in markedly lessening the results that might reasonably be expected from the amount of effort that has been put into the work as it is carried on at the present time.

There are two fundamental bases for effective child-hygiene work in any community:

**First—Object:** Prevention of disease is the first consideration, with such corrective health measures as may be necessary to assure a normal physique during childhood and sound health throughout adult life.

**Second—Method:** Continuous coordination and effective health supervision from the prenatal period through adolescence, by means of public and private community provision of all essential educational and health aids, including health instruction, supervision and care of the individual mother and child.

Cleveland's problem does not differ from that of other communities in this regard. Mention should be made of the efforts which are directed toward meeting the situation. Praise should be given to the four general features of Cleveland's child-caring program: (1) The prenatal and maternal services for expectant mothers, originating in the work of the Maternity Hospital, and now shared in by other hospital and nursing agencies; (2) The Babies' Dispensary, which serves the whole city in the diagnosis and treatment of the ills of infancy; (3) The prophylactic baby health stations of the Division of Health, which serve by teaching mothers how to keep well babies; (4) The system of school medical inspection, under the Board of Education. A creditable infant mortality rate and a widespread public interest in the necessity for correction of physical defects and the resources for maintaining children's health are the logical results of these activities. It is evident, however, that there are many gaps in the continuity of an effective health program for children. There is not only lack of coordination in the work of the agencies in the field but, in many instances, there is insufficient equipment and personnel to meet existing needs in a manner at all adequate.

## The Problem

Concretely, the problem in Cleveland may be outlined as follows:

1. There are approximately 240,000 children in Cleveland under sixteen years of age.
2. There were 19,123 registered births in Cleveland during 1919. Conservatively estimated, fifty per cent or ten thousand of these mothers require medical and nursing supervision and care, at the expense of the community, during their prenatal period and at time of confinement, and an equal number of babies need care during the period of infancy. It is estimated that the remaining fifty per cent are able to obtain the essential care through individual effort, although a relatively small proportion of the latter group actually receive what is recognized as adequate prenatal care.
3. On the basis of an estimation of approximately twenty thousand children in each year age-group under five years, it is probable that there are about sixty thousand children between two and five years of age in Cleveland. From experience with this age-group in other cities, it is estimated that at least thirty thousand of these children need the type of health supervision they can obtain only through concerted action of community forces.
4. To the number of children attending the public schools (103,273, not including students in Senior High Schools) should be added the full number in attendance at the other free schools in the city (35,000, in the parochial schools), whether under denominational or other control. In its expenditure for and interest in the welfare of its children, Cleveland should not discriminate in its bounty. All children of school age should receive equal advantages and have equal opportunity for the best type of health care.
5. Children of whatever age who, through no volition on their part, are deprived of home care, should be placed in other homes as wards of the city, or should be given proper care in modern, well-equipped and adequately maintained day nurseries or resident institutions. These children are entitled to the same kind of health supervision that is considered essential for all children.
6. The adolescent child is entitled to adequate protection from exploitation in industry. The period of adolescence is one of extreme importance

from the health standpoint. This is particularly true of girls, and for individual sound health and future welfare of the race, there should be stringent regulations from the health point of view for the protection of all children during this hazardous period of life.

## Proposed Organization

The outstanding need for effective child-hygiene work in Cleveland at the present time is proper organization of existing facilities of public and private agencies and the public departments. In order that this may be made effective, there must be (1) central control; (2) proper coordination.

At the present time the community as a whole expresses itself in health matters through the Division of Health and through the health control of children of school age provided by the Board of Education. Even within the public departments there is divided control, but among the private and semi-public agencies this division is more sharply marked. It is neither necessary nor wise for private agencies to sacrifice their individuality in any way or to become part of the public work except as it may be thought wise from time to time for the public to assume certain types of child-hygiene effort that now are being carried on by private associations. It is essential, however, that there should be some coordinating force and some form of central organization among the private agencies so that they may function completely with the public departments in the most effective manner.

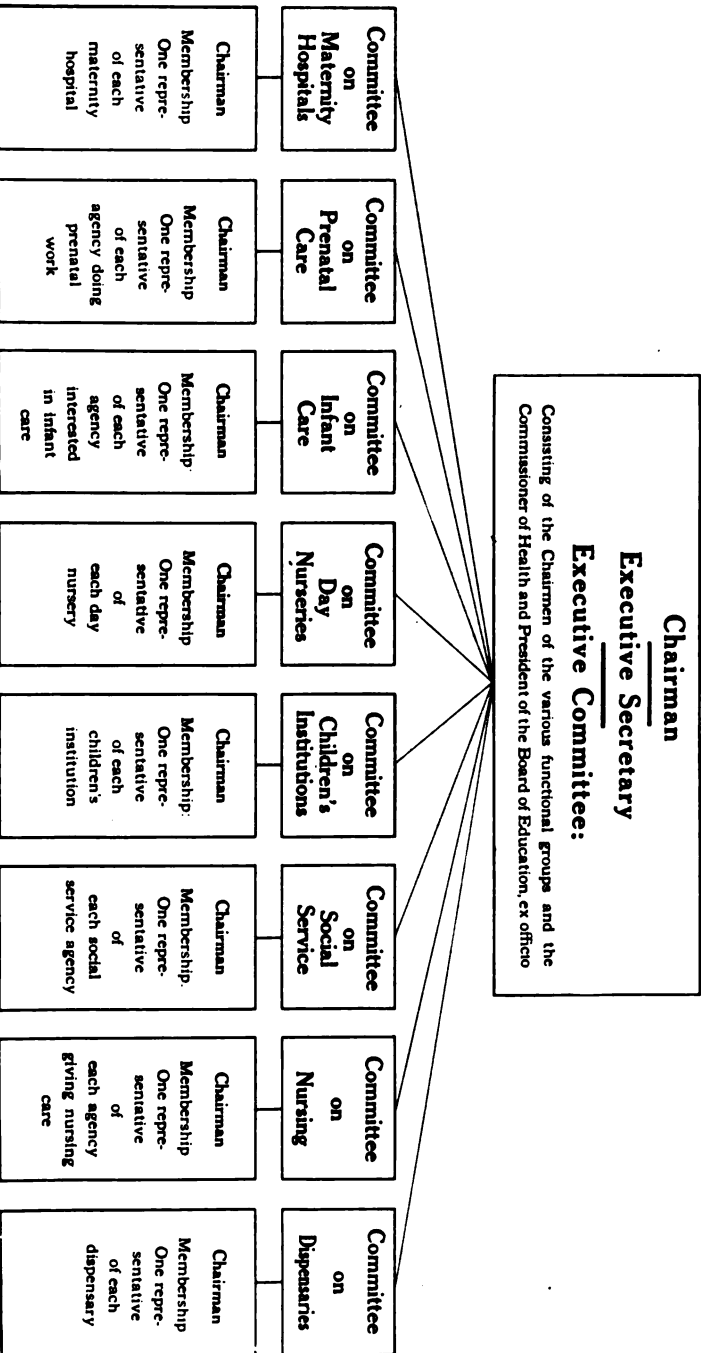
### 1. CENTRAL CHILD HYGIENE COUNCIL

*As part of the general health organization of private and public agencies, there should be a Central Child Hygiene Council. This Council should have membership consisting of a representative from each private or public agency dealing with any phase of child health supervision. To facilitate administrative procedure, such a council should be divided into functional groups, each having in its membership one person representing each agency in its class. Each group or subdivision should elect a chairman, such chairmen to form the executive committee of the Central Child Hygiene Council. In turn, the executive committee should elect their own chairman and should have at their disposal a paid, full-time executive secretary as the executive officer of the Section on Child Hygiene of the proposed Cleveland Public Health Association.*

*The Central Child Hygiene Council should—*

- 1. Coordinate the work of all public and private agencies, promoting effective cooperation while preserving the integrity of each unit.*
- 2. Provide for an equitable distribution of functional activity to*
  - (a) meet existing needs.*
  - (b) prevent duplication of effort.*

# Proposed Organization of Central Child Hygiene Council



Source: Bureau of Child Hygiene, New York City Health Department, 1915



- (c) *attain uniform methods of procedure.*
- (d) *extend the functions to cover all parts of the city and provide the needed health supervision for each part.*
- 3. *Provide for each type of child hygiene work in each of the health zones\* or districts as established by the Division of Health.*
- 4. *Maintain a central clearing house to*
  - (a) *receive and tabulate all essential statistics on child welfare work;*
  - (b) *act as intermediary and communicating link between the functional groups, unless (a) is provided for as suggested in the chapter on "Vital Statistics within the Division of Health." (Part II.)*
- 5. *Stimulate public opinion to obtain adequate appropriations for child health work under the Division of Health and the Board of Education.*
- 6. *Act in an advisory capacity and as a closely cooperative group to the city government to promote effective public health work for children.*

## 2. PUBLIC DEPARTMENTS

*The Division of Health and the Board of Education should provide for close cooperation with each other and with the private child hygiene agencies. This may be done by—*

- 1. *The appointment by the respective public departments of a representative, preferably the Director of the Department of School Medical Inspection of the Board of Education and the Director of the Bureau of Child Hygiene of the Division of Health, to serve as a cooperative and coordinating committee to act on all matters pertaining to child health which concern the work of both departments, such as—*
  - (a) *Supervision and control of communicable diseases in children.*
  - (b) *Sanitation and hygiene of school buildings and the homes of school children.*
  - (c) *Supervision of the health of children of pre-school age.*
- 2. *The appointment by these departments of appropriate representatives to serve on the committees of the Central Child Hygiene Council.*

The above type of organization will provide for strong central representation from the Division of Health and the Board of Education, and a strong

\* Throughout this report the term "zone" will be used to designate that division, census area or health district that may be decided upon as the unit for health work. These zones or districts should have definite boundaries, which may comprise one or more sanitary areas, and it is recommended that such zones be the unit for all health work.

central body representing all private agencies, with the machinery so arranged that these public departments and private agencies shall function harmoniously and without waste of effort. Such a type of organization will not only provide for covering the territory as far as present facilities admit, but it also will call attention to existing needs, provide a way for extension of types of work already organized, and the institution of new kinds of work that are essential for continued, well-rounded child care.

## Functional Activities

### PRENATAL CARE

#### *Present Status and Needs:*

The object of prenatal care in Cleveland should be to provide adequate instruction, supervision and health care during the prenatal period for approximately fifty per cent of all pregnant women, estimated at ten thousand.

About thirty-five per cent of all deaths under one year of age occurring the first month of life. Statistics obtainable from many cities show that at this death rate under one month may be reduced one-half or even two-thirds by proper prenatal supervision. Provision for such prenatal care in Cleveland would mean that from three hundred to four hundred babies would be saved each year.

#### *Present Provision for Prenatal Care in Cleveland:*

During 1919, 2,848 prospective mothers received prenatal care under the auspices of four institutions through nine organized centers. This work of good quality. In addition, the Visiting Nurse Association and a number of nurses from the Division of Health gave prenatal advice to all pregnant women with whom they came into contact. The latter service undoubtedly gives good results, but it would seem that all pregnant women should have the advantage also of the type of service rendered by the prenatal clinics. In addition to the care provided for 2,848 mothers in 1919, it is evident that Cleveland should make provision for prenatal care for at least seven thousand more prospective mothers annually.

A study of the records of 442 mothers receiving prenatal care in the university district, where the baby death rate was found to be much higher than the rate for the city as a whole showed that, even under such circumstances, it was possible to reduce the mortality rate among babies under one month of age to 24.8 per thousand births, as compared with the city rate 31.4 per thousand births, as a result of prenatal care. If results like these can be obtained in a district where the racial, social and economic conditions are such as to result ordinarily in an unusually high baby death rate, it is quite evident that far better results might be expected if provision for prenatal care could be extended to all pregnant women of the city who otherwise would be without such supervision. By extending this service,

Cleveland could not only actually save from three hundred to four hundred baby lives a year but the death rate among mothers from accidents and diseases at time of confinement could be reduced materially. What can be accomplished in this regard may be seen from the figures given out by the Maternity Center Association of New York City, which show that among 502 women supervised during their pregnant periods and receiving proper care at time of confinement, there was only one death. Maternal mortality ranks second highest in the list of causes of death among women between fifteen and forty-five years of age in the United States, being exceeded only by tuberculosis. Reduction in the death rate of mothers and babies as a result of prenatal care can be effected with mathematical certainty. It is simply a question of providing the type of care that has already been recognized and standardized.

Reduction of the still-birth rate in the University District from 28 per thousand births for the city as a whole to 20.4 per thousand births among the prenatal cases, and reduction in the death rate from puerperal sepsis from four per thousand births for the city as a whole to 1.4 per thousand births for the cases having prenatal care also warrants favorable comment. It must be remembered, however, that this reduction applies only to a limited group of pregnant women, *i. e.*, 2,848 of a total of 19,123 registered births in 1919. It shows what may be done and makes it clearly evident that Cleveland needs three times the facilities for prenatal care that she has at present.

### RECOMMENDATIONS

1. It seems evident that the Division of Health cannot at present secure the necessary funds to carry on a city-wide service in prenatal care. *Ultimately, this work should be one of the functions of the Bureau of Child Hygiene, paid for by appropriation of city funds. Until this can be accomplished, however, the responsibility must rest upon private initiative and should be carried on by private agencies.*

2. *It is suggested that a Committee on Prenatal Care of the Central Child Hygiene Council be composed as follows:*

- (a) *An obstetrician or other representative from each hospital or other institution having an obstetrical service under the direction of a specialist in obstetrics, either in the hospital or at the patient's home.*
- (b) *A member of the Academy, Committee on Public Health.*
- (c) *A representative of the nursing staffs of the University District and the Visiting Nurse Association.*
- (d) *A representative of the Division of Health.*

3. *Facilities for prenatal care are offered in Cleveland by four institutions—the Maternity Hospital Dispensary, through its six clinics; the University District Dispensary; St. Luke's Hospital Dispensary and Mt. Sinai Hospital Dispensary. These hospitals and the home nursing services of the Visiting Nurse Association and the Division of Health should hold themselves responsible for maintaining*

and providing proper professional services at the maternity centers in each of the specified zones of the city. Each zone should have one or more centers, in accordance with its needs. The service should be free, except where the economic status of any locality may warrant the establishment of a center where a moderate fee may be charged.

4. No institution should take patients from any zone not under its control, except by reference from another institution, at the special request of the patient concerned, or as a matter of professional courtesy between the directors of the respective services.

5. Expectant mothers should be encouraged to attend the maternity centers in their zones, and should be referred there by

- (a) Visiting nurses.
- (b) Division of Health nurses.
- (c) Social workers.
- (d) Hospitals.
- (e) Physicians.
- (f) Midwives.
- (g) Any other persons who may have knowledge of such cases.

6. All cases of delivery should be sent to the physician or midwife referring the patient to the prenatal clinic, or to the hospital responsible for the zone in which the patient lives.

7. There should be submission at specified intervals to the executive secretary of the Central Child Hygiene Council of

- (a) Full reports of all statistical data of work performed and results obtained.
- (b) All complaints of discrimination in favor of or against any institution or individual, and matters requiring adjustment of policy.

8. The Committee on Prenatal Care should prepare

- (a) Standard forms for recording all essential data.
- (b) Standard methods of prenatal care.

These forms and methods should be adhered to by each clinic.

9. Provision should be made for necessary home visits by nurses who are directly assigned to duty at the prenatal clinic or by the Visiting Nurse Association

## MATERNITY CARE

### *Present Status and Needs:*

#### *1. Present Hospital Facilities:*

There are seventeen hospitals in Cleveland which have set aside a total of three hundred and fifteen beds for maternity cases. The total number of institutional deliveries in 1919 was 4,980. The number of institutional deliveries has increased from 11.5% of the total births registered in 1915

to 26% in 1919. Two agencies—the Maternity Hospital and St. Luke's—gave out-patient service for maternity cases, the Maternity Hospital delivering in 1919, 1,156 patients, and St. Luke's, 101. The Visiting Nurse Association gave nursing service to 234 confinement cases.

## 2. Birth Registration:

The registration of births in Cleveland is inadequate. A number of births were taken from the city at large and checked at the Bureau of Vital Statistics of the Division of Health to see how many had been registered. The following results were obtained:

	1918	1919	1920	Total for 1918-19-20
Total number of birth records investigated....	128	429	57	614
Total number found registered.....	82	267	34	383
Percentage of birth records investigated found registered.....	64%	62%	59.5%	62%

These results, with 55 additional, were checked over carefully, looking under every possible date and spelling. As a result of this re-investigation, the following results were obtained:

	1918	1919	1920	Total for 1918-19-20
Total number of birth records investigated....	141	451	77	669
Total number found registered.....	104	362	46	522
Percentage of birth records investigated found registered.....	74%	80.2%	59%	78%

In addition, a list of baptisms from various churches of the city were looked up, with the following results:

	Pilgrim	Trinity	St. Paul's	2d Presb.	Total
Total number of birth records in- vestigated.....	25	28	11	3	67
Total number found registered.....	22	24	8	3	57
Percentage of birth records investi- gated found registered.....	88%	86%	73%	100%	85%

These investigations would seem to show that not over eighty per cent of the births occurring in Cleveland are reported to and registered by the Bureau of Vital Statistics of the Division of Health. No action is being taken by the Division of Health against persons who fail to report births, nor is there any evidence that proper measures are being taken to check up birth registration. A beginning has been made toward requiring a birth certificate as evidence of age for school enrollment. Failure to report births seems to be common both to physicians and midwives. Analysis was made of one hundred deaths under two years of age, which showed that physi-

s had failed to report 39.2% of the births which had occurred under supervision, and midwives had failed to report 47% of the births attended by them.

### 3. *Midwives:*

It is estimated that there are one hundred and sixty licensed and one hundred and ten unlicensed midwives in Cleveland. It is evident that the relations of the State Medical Board of Ohio are such that midwives are practically barred from obtaining licenses in Cleveland at the present time. During 1919-1920 only two midwives received licenses to practise. The amount of supervision given to midwives who are practising is inadequate, amounting to an average of less than one call a year upon each midwife during 1919. It is evident, also, that midwives are allowed to practise without being licensed.

### 4. *Relative Number of Births Reported by Midwives and by Physicians:*

During the past five years, of the total number of registered births, in 55.5% in 1913-14 to 65% in 1918-19, were reported by physicians, while from 44.5% in 1913-14 to 33.9% in 1918-19 were reported by midwives. From this it is apparent that, while the practice of midwives is decreasing, it still is of sufficient extent to warrant attention, serving as it did in 1919, 5,903 pregnant women. It is evident that, notwithstanding extensive hospital and out-patient maternity services, there is a large portion of women in Cleveland who prefer the services of midwives at the time of confinement. This experience is common in all cities having a large alien population. The great majority of these women accept the midwife in the traditional manner. Neither they nor their families have ever known any other type of attendant at birth. In addition, among certain foreign groups, the husbands of the women are prejudiced against having men in attendance at the time of confinement. There can be no doubt that, from the point of view of the patient, the midwife fills a social need. There is no evidence to show that midwives can be eliminated by imposing regulations of so stringent a character, as a requisite for a license to practise midwifery, that no midwife can possibly comply with them. There is furthermore, a serious inconsistency in any type of administration which permits unlicensed and untrained midwives to practise, but refuses to recognize the graduates of such schools as that maintained by the City of New York, or graduates of the high types of schools that are maintained in England. In fact, the regulations now in force in the City of Cleveland would not only graduates of the best schools in this country but those of the great majority of the European schools. The regular course in midwifery in England covers a period of six months, in New York City eight months, while on the Continent the average course is from twelve to eighteen months. To require a two years' course in midwifery, therefore, is prohibitive. It is appalling to think of the results of a system of midwifery

control which, by its inherent qualities, systematically ignores the dangerous results that may come from allowing ignorant, untrained women to practise midwifery without supervision or instruction.

#### *5. Prevention of Blindness:*

Excellent results have been obtained from the follow-up of cases of ophthalmia neonatorum. It is stated that only one case of blindness due to gonococcal infection has occurred among children born in Cleveland during the past five years.

### **RECOMMENDATIONS**

#### *1. Committee Formation:*

*In order to provide for the right distribution of the present hospital facilities for maternity care throughout the city, there should be an Obstetrical Council or a Committee on Maternity Care of the Central Child Hygiene Council, such committee to consist of*

- (a) An obstetrician or other representative from each of the maternity hospitals.*
- (b) A representative of the Bureau of Child Hygiene of the Division of Health.*
- (c) A representative of the Visiting Nurse Association.*

The functions of this committee might well be served by the committee on prenatal care as outlined above, page 274.

#### *2. Birth Registration:*

*(a) Adequate birth registration is absolutely essential as a basis for effective child hygiene work. It is essential to know how many babies are born, their race, sex and residence. The Division of Health should take whatever steps may be necessary to give Cleveland as nearly one hundred per cent birth registration as is humanly possible. This may be done by*

- 1. Investigating deaths of babies under six months of age to determine whether the births were registered.*
- 2. Receiving reports of names, addresses, dates and places of birth of all babies registered at the health centers and investigating same with reference to birth registration.*
- 3. Returning a copy of the birth certificate to the mother of each baby whose birth is recorded.*
- 4. Prosecuting all physicians, midwives and others who fail to report births as required by law.*

*(b) In order to make the statistics of births available as a basis of work, facilities should be afforded for analysis of these records, by zones, so that any information regarding distribution or other questions connected with the birth rate may be available immediately to persons interested in child welfare work. For further details see chapter on Vital Statistics, Part II.*

**Hospital Facilities:**

The present provision for beds for maternity cases seems adequate, and when the out-patient maternity services also are considered, it is deemed inadvisable to recommend extension of free maternity bed service at the present time. There are, however, methods which might be employed to make this service a more integral part of the child health program. These are that

- (a) *Each hospital providing maternity service should assume responsibility for certain zones and for the care of all women needing and desiring free obstetrical care who reside in such zones. It should be agreed that patients residing in other zones will not be taken by any hospital other than that responsible for the zone in question, unless by special arrangement in each case with the hospital or institution in charge of the zone in which the patient resides.*
- (b) *All patients who register in advance should be referred to the prenatal clinics for proper supervision.*
- (c) *Standard forms of record-keeping and compilation of statistics as outlined by the Committee on Maternity Care should be used.*
- (d) *All mothers after confinement should be referred to the health centers. This can be done by using a duplicate card, one section to be given to the mother, referring her to the health center or prophylactic baby health station in the zone in which she lives, the other to be sent to the executive secretary of the Central Child Hygiene Council, who will refer it to the indicated health center. If the mother does not appear at the center within twenty-four hours, a nurse should visit her at her home to induce her to register. Whenever a mother is referred to a health center, the essential points in the history of the case and the feeding and care of the baby should be forwarded by the hospital or other institution to the health center.*
- (e) *Extension of the out-patient service in zones where the hospital facilities are inadequate.*
- (f) *Extension of the work of the Visiting Nurse Association to give proper obstetrical nursing for the out-patient service in all zones.*

**Suggested Program for the Control of Midwifery: <sup>1</sup>**

- (a) *Regulations for the control of midwifery should be amended so that the graduates of reputable midwifery schools of recog-*



*nized standard, which maintain courses of not less than six months' duration, may be admitted to practise, after passing the necessary state examinations. All midwives who are unable to qualify under such a system of regulation should be denied the right to practise, and should be prosecuted if they attempt to.*

- (b) *The present midwifery law should be amended so that it will not be retroactive from the date of its first enforcement. Midwives who were already practising when the law became effective should be granted licenses to continue, by virtue of their having practised before. Reasonable and adequate but not unattainable standards should be drawn up for midwives who, in future, may apply for permits to practise. The rules and regulations governing the practice of midwifery should be enforced rigorously, and any midwife who is found not to have complied with such rules and regulations should be prosecuted. If found guilty, her license should be revoked. By this method a gradual elimination of unfit midwives can be accomplished in a manner that will protect the interests of the community and of the mothers, and at the same time solve the problem of the present incongruous situation in Cleveland, whereby unlicensed midwives are permitted to practise but are not kept under proper supervision.*
- (c) *A system of supervision should be inaugurated at once, under the Division of Health, Bureau of Child Hygiene, whereby as part of the work of the health centers midwives will be kept under constant and continuous supervision. They should be encouraged to improve the methods of their practice, should be taught how to attain a safe, decent technic and, as far as possible, the actual type of work performed by them should be known by having nurses attend cases with them and keep them under constant supervision. Midwives should be required to keep records of all cases attended by them and should be held strictly accountable for adherence to the rules. The rules and regulations governing the practice of midwifery in New York City and in New York State will serve as useful examples of practical measures which can be and are being enforced.*

#### INFANT CARE

##### *Present Status and Needs:*

Infant care in Cleveland is carried on under the control of the Bureau of Child Hygiene of the Division of Health, through fourteen health centers. In eight of these centers work for the control of tuberculosis, supervision

f contagious diseases, including eye conditions and nursing inspection of children of the parochial schools, also are provided for. In two of the centers venereal disease work also is carried on.

1. It is estimated that there are in Cleveland at least twenty thousand children under two years of age who should have the type of health supervision which their parents are unable to obtain for them without community help.

2. The health centers are well distributed throughout the city but, owing to the widely scattered population in certain areas and consequent distances to be traveled by the mothers, they do not cover the field of needed infant care.

3. The medical work in these health centers is of the five types enumerated above. It is controlled by the heads of three bureaus of the Division of Health—the Bureau of Tuberculosis, the Bureau of Communicable Diseases, and the Bureau of Child Hygiene. \*The nurses in the health centers carry on what is known as “generalized” nursing; that is, they divide their time among all the functions that are served by the centers. From the point of view of the efficiency of the infant welfare service, this type of nursing would seem to be unfortunate. The proportion of time given to infant care at the centers is wholly inadequate.

4. Administrative work and office duties by the nurses occupy too great a proportion of their time. On a basis of one hundred hours of service for the nurses at the health centers, 41.9% of this time was found to be devoted to office duties. This disproportion of service works to the detriment of the regular nursing functions, and may account in great measure for the neglect of the proper follow-up work among babies.

5. Not enough nurses are assigned to duty at each center to care adequately for the functions placed under their supervision. Each nurse has too many patients under her care. Reference to the chapter on Nursing Service, Part IX, will show that each nurse has approximately three hundred cases to care for, including two hundred babies. This is greatly in excess of the maximum that can be supervised effectively. A study of the records at the Health Centers shows that an average of .4 visits is paid each baby each month; that is, each baby is visited about once in every two to two and a half months. One in every nine babies comes to the clinic once during the month. It is evident from a study of individual record cards and of the various reports on nursing service in this Survey that home visits to babies are neglected, that there is little attempt to check up regularity of attendance, to give proper and necessary home supervision, or to see that delinquent cases are brought back to the centers. It is evident that too great reliance is placed upon distribution of milk as a bait to draw mothers to the centers. While this may account in great measure for the fairly adequate attendance, it in no way compensates for the loss that is apparent in the lack of proper teaching of hygiene in the home and supervision of the baby's environment.

\* The information concerning the scope, character, excellencies and defects of the nursing service of the Division of Health and the schools, used in this report, was obtained from the reports of the investigators who collaborated under Miss Josephine Goldmark's direction in the preparation of the chapter on Nursing Service in Cleveland, Part IX.

6. There is no organized method of referring cases to the health centers. Outgoing mothers and babies from maternity hospitals are not referred to the centers, and there is no apparent recognition of the value of enlisting the cooperation of midwives in referring babies born under their care, a type of case which is particularly in need of such supervision.

7. Infant feeding by artificial means has been developed to a high standard of efficiency, but statistical evidence would seem to show that too great emphasis is placed on methods of artificial or substitute feeding, with consequent apparent neglect of the importance of breast feeding. Three separate studies which were made of babies under the care of the health centers, show that the number of babies breast fed varied from 29 to 60 per cent. There is indisputable evidence available to the effect that ninety-five per cent of all women can nurse their babies. As a measure for the reduction of infant mortality, encouragement of breast feeding is probably of greater importance than most highly developed methods of substitute feeding.

8. While specific criticism of the many and varied types of work required of the nurses may not be advisable, in view of the determined policy to carry on generalized nursing service, there is evidence that infant hygiene work, both at the health centers and in the homes, is neglected. The nursing reports show that home visits are too infrequent and irregular, and from the records it appears that nursing care (to infants) is rarely given, and then very inadequately. Owing to the many duties which the nurse is called upon to assume and the large number of patients under her control, follow-up visits to babies in their homes, and the supervision necessary to see that the babies are brought to the clinics regularly, have been so far neglected that in a considerable proportion of instances it was found that the babies had not been seen for periods of from two to three months, and that there was no record as to what had become of them during that time. Such neglect leads to the inference that preventive health work for infants has been relegated to a place of minor importance. Such a result may reasonably be expected when the nurses are required to attend to so many kinds of work which, by their very nature, are of more emergent type. It is quite natural that in any combined medical or nursing work the corrective or emergent cases will be given precedence. Without underrating the importance of contagious disease and tuberculosis supervision, venereal disease control or school inspection, attention may well be called to the inequality of the prophylactic work for babies which, by its nature, is non-emergent in character, but which is of the utmost importance in any effective public health program which has for its object a reduction of infant sickness and death.

While medical advice can be given in an adequate manner at the health centers, the value of the nurses' work is more clearly shown in their home visits. Only in that way can they be sure that the proper routine is being carried out, that the directions of the doctor are being obeyed and that the mother not only understands but actually puts into effect the essential methods of baby care. The baby's immediate environment is its mother.

but its home surroundings are only slightly less remote in degree, consequently the many factors of hygiene and sanitation which have so direct an effect upon the lives of infants can be adjusted and controlled only if the nurses make systematic and regular home visits. If the administrative experiment in so-called "generalized" public health nursing is to be continued, as for some reasons appears desirable, radical change in the organization, distribution and supervision of the nurses' work must be undertaken promptly.

9. There is no agency in Cleveland for supplying wet nurses. The use of wet nurses is recognized as an important factor in saving the lives of young babies. Breast feeding plays such an important part in the prevention of infant sickness and death that provision for some opportunity for obtaining the services of wet nurses is a recognized part of the community program for the reduction of infant morbidity and mortality.

### RECOMMENDATIONS

1. *A Committee on Infant Care should be formed as part of the Central Health and Hygiene Council. This committee should consist of*

- (a) *A representative from the Bureau of Child Hygiene of the Division of Health.*
- (b) *A representative of the Visiting Nurse Association.*
- (c) *A representative of the Babies' Dispensary.*
- (d) *A representative of the hospitals providing special maternity services.*
- (e) *A representative of the Committee on Prenatal Care.*

2. *The Division of Health should extend its health centers, particularly those devoted wholly to preventive health work for infants. If it is not possible at the present time to establish more of these health centers, the minimum requirement should be at least one center in each zone, with sufficient nurses attached so that home visits may be made to the families of all infants who need such attention and who live at too great distances from the centers to attend regularly.*

3. *Each center should be furnished each day with a list of names and addresses of all babies whose births were reported from the indicated zone on the previous day. Each such case should be visited and the mother urged to attend the center. If she is unable to do this, she should be kept under observation by the visiting nurse.*

4. *The personnel of the staff at each health center should be increased. With the present distribution and types of work, each nurse should have under her supervision not more than one hundred cases. If it is impossible to increase*

*the staff at the present time, attention should be directed immediately toward relieving the nurses of the greater part of their office duties. Clerks should be employed for this purpose, and the nurses should devote their entire time to nursing work.*

*5. It is essential for effective work that the number of home visits to babies should be increased and that these home visits should be carried out with regularity.*

*6. More emphasis should be placed upon the general education of the mother in methods of proper baby care, in addition to the question of feeding.*

*7. Increased attention should be paid to the necessity for breast feeding. Methods of restoring lactation and encouraging mothers to continue to nurse their infants should be insisted upon more vigorously than they are at the present time. Every effort should be made to increase the relative proportion of breast feeding among infants in attendance at the health centers.*

*8. Efforts should be made through the committees of the Central Child Hygiene Council to obtain effective cooperation from other agencies. Cooperation should be maintained with the prenatal clinics and maternity hospitals in obtaining histories of all cases cared for by them who afterward are referred to the baby clinics of the health centers.*

*9. Babies should not be discharged from control of the health centers when they reach the age of two years.*

*10. Health centers should extend their functions to include care of the child of pre-school age. For discussion of this question, reference is made to the discussion of "Pre-school age Care," which follows.*

*11. There should be established at each health center a wet nurse registry. This should be maintained in cooperation with the Committee on Maternity care of the Central Child Hygiene Council. Effort should be made also to obtain the cooperation of midwives in this regard. Mothers whose babies have died should be asked to register as wet nurses. Each woman so registered should receive a thorough physical examination, including a Wassermann test. The facilities of this wet nurse registry should be open to all physicians of the city.*

#### PRE-SCHOOL AGE CARE

##### *Present Status and Needs:*

1. Statistics of the United States Census Bureau show that eighty per cent of all deaths from contagious diseases occur under five years of age. Less reliable morbidity statistics would seem to indicate that from eighty-five to ninety per cent of all cases of contagious diseases occur in children

er five years of age. Examination of children of this age group has revealed the presence of physical defects in greater proportion than in the ten to fifteen-year-age group. Studies of the relative occurrence of physical defects show that practically all of them can be prevented or at least corrected in their early stages during the pre-school age period.

2. Facilities for the health supervision of children of pre-school age in Cleveland are almost wholly lacking. There are seven day nurseries in Cleveland, five of which—the Mather, Louise, Lend-a-hand, Perkins and Levee—are branches of the Cleveland Day Nursery and Free Kindergarten Association. One—Merrick House—is conducted in connection with that settlement house, and the other—Joseph & Feiss—by that industrial plant the children of its employes. The aggregate service provided by these nurseries in 1919 was 47,085 child days, and the daily average attendance was 184.75 children. It may thus be seen that the day nurseries of Cleveland are caring for less than two hundred children daily out of an estimated child population of sixty thousand between two and five years of age.

3. It is estimated that fifty per cent of the children between two and five years of age, a total of thirty thousand, are probably without any health supervision.

4. This neglect of supervision of the child of pre-school age is the greatest in the continuity of Cleveland's child-health program. The importance of caring for this age-group cannot be overestimated.

### RECOMMENDATIONS

*Immediate steps should be taken to provide the necessary facilities for health supervision of children of pre-school age. It is recommended that this be done through the health centers as a continuation of the work of infant care.* It is realized that the pre-school age bears a very intimate relation not only to the period of infancy but also to the period of school life. It may well be considered, therefore, whether the school should be responsible for the care of the pre-school age child, or whether this should be considered simply an extension of the period of infancy. Logically, the school should consider that the pre-school age bears the same relation to the school age as the prenatal period bears to infancy, and, theoretically, it should be the duty of the school authorities to see that children of pre-school age are so cared for and their health so supervised that they will be in sound physical condition when they enter school. From a practical viewpoint, however, such a course seems inexpedient at the present time. It is probable that the rooms appropriated for school purposes could not be used for the benefit of children who have not yet reached the legal school age. While it is possible, of course, that private clinics to establish clinics for children of pre-school age in connection with the service of school medical inspection in the public and parochial schools may be obtained, it seems at the present time that the need would be most completely served by considering the supervision of children of pre-school age one of the functions of the health centers, under the Division of Health.

Such service should be carried on as follows:

- 1. Children who, as infants, have been under the care of the health centers, up to two years of age, should not be discharged from observation at the end of that time but should be continued on register as pre-school age cases.*
- 2. The personnel of the health centers should be increased to provide sufficient doctors and nurses to give the necessary supervision to children of pre-school age.*
- 3. Close cooperation should be maintained with hospitals, day nurseries, the Board of Education, social service agencies and other sources so that children between two and five years of age may be referred to the health centers for health supervision.*
- 4. Each child of pre-school age should receive a physical examination at least once every six months and after any acute illness. If possible, the service should be extended so that examinations may be made every three months. Every case, whether considered normal or abnormal, should be placed under the supervision of the nurse and visits should be made to the child's home at frequent intervals so that environment may be adjusted, the hygiene of its daily life regulated and all possible prophylactic and early corrective measures taken to insure prevention of disease and future sound health for the child.*
- 5. In connection with the dental clinics, a system of oral hygiene should be maintained, and all children of pre-school age should receive the advantage of this service. It has been proved definitely that proper methods of oral hygiene, begun in early childhood, have a more definite and lasting effect in preserving the teeth than any future corrective work can possibly accomplish. Moreover, the cost of proper oral hygiene is only a fraction of the cost of corrective dental work. To be effective, oral hygiene should be commenced before the child's second teeth have begun to appear, and certainly well in advance of the appearance of the first permanent teeth—the sixth year molars.*
- 6. In the pre-school age clinics facilities should be provided for performing Schick tests on all children and for giving toxin-antitoxin injections for immunization of proved susceptibles against diphtheria. The period before five years of age is the time when natural immunity to diphtheria is at its lowest and when the death rate from this disease is at its highest point. There is little doubt that*

this disease could be largely, if not entirely, eliminated if Schick tests and toxin-antitoxin immunizations of non-immune children could be carried out throughout the entire child population under five years of age.

### CHILD-CARING INSTITUTIONS

#### *Present Status and Needs:*

There are in Cleveland nineteen children's institutions with a capacity 2,032 children. In addition, about 800 more children, under the supervision of the Humane Society, are provided for in boarding homes and in the homes where they have the status of adopted members of the family.

A medical survey of these institutions gave the following results:

1. Only three out of a total of nineteen institutions investigated have an entrance physical examination.
2. Only three have an admission quarantine to prevent new entrants from bringing contagion into the institution.
3. Eleven have ample isolation facilities; eight have not.
4. Thirteen have adequate hospital facilities, while six have inadequate facilities, or none at all.
5. Not a single institution of the nineteen investigated conducts a periodic physical re-examination.
6. Thirteen of the homes have hospital and dispensary affiliations, while six maintain no relationships of this nature.
7. Children are allowed as visitors in seventeen of the institutions investigated. In only two is this practice prohibited.

A sanitary survey of these institutions showed a great variety of inadequacies of equipment and insanitary conditions prevailing (For details see chapter in "Child-Caring Institutions," Part II.).

### RECOMMENDATIONS

1. *The licensing of all child-caring institutions and their regular and adequate inspection and supervision by the municipal government should be provided for through the Division of Health.*

2. Extension is advised of the boarding-out system in private homes, under competent supervision. Homes offering to receive children to board should not be allowed to do so before having received permits for the purpose, such permits to be issued by the Division of Health. Permit holders should be kept under close supervision and the permits revoked if any negligence is found at any time. As rapidly as possible provision should be made so that every mentally normal child who cannot otherwise receive home care may be placed in a properly licensed private home, under adequate supervision, and each child should receive, either through the pre-school age facilities of the health cen-



ters or through the school medical inspection of the public and parochial schools, the same type of effective health supervision that is given to children whose parents are alive and able to provide for them.

### CHILDREN'S DISPENSARIES

A detailed statement of existing facilities, the needs to be met and the remedies proposed, will be found in the chapter on "Dispensaries," Part X.

### SCHOOL HEALTH SUPERVISION

#### *Present Status and Needs:*

School health supervision in Cleveland must be considered from two angles: school medical inspection in parochial schools, and school medical inspection in public schools.

#### *School Medical Inspection in Parochial Schools:*

There are about 35,000 children attending the parochial schools in Cleveland. The authorities of these schools provide no medical or nursing care or health education, either in the school or in the home. In March, 1917, nurses of the Division of Health were assigned to duty in seventeen parochial schools. In 1919-1920 this work was carried on in twenty-one parochial schools. Records seem to show that 9,323 pupils in these schools received a physical examination. Notices were sent to the parents and some effort was made to follow up the children found to have defects. No records are available to show what percentage of defects the nurses had corrected. During the school year 1919-1920 the total number of parochial schools, sixty-eight in number, with a registration of approximately 35,000 pupils, were placed under the supervision of these nurses. As the staff of field nurses averages only about fifty and as they have their work at the health centers in addition to this work in the parochial schools, it was impossible for them to carry out any system of school health supervision in the parochial schools that could be considered at all adequate.

One observation was made in each classroom to discover evidences of contagious diseases. Visits were made once a week to each school and a certain amount of absentee visiting is recorded. No provision for the assignment of doctors to this work has been made. It is evident that the work is not well organized or at all extensive and in no sense can it be considered an adequate system of health supervision of the children in the schools in question.

#### *School Medical Inspection in Public Schools:*

Services dealing with health in the public schools in Cleveland are carried out through four distinct groups: (1) a Department of Medical Inspection under the control of a Director who is on part-time; (2) physical education, under control of a Director; (3) health education, without any organized or central direction, and (4) sanitary supervision, under the Director of Buildings.

The Directors of the Departments of Medical Inspection and Physical Education report to an Assistant Superintendent of Schools, while the Director of Buildings is under the control of the Director of Schools or chief of the service department for the Board of

Education. It may thus be seen that there is divided responsibility for the health of the school children, and that at present there is no coordinated program of such type that the work may be considered effective.

More specific consideration may be given to these matters as follows:

***Medical Inspection:***

This department is organized with a director, who is responsible, through an assistant superintendent, to the Superintendent of Schools. The following groups of employees and functions come under the supervision of the director of this department:

- (a) Medical inspectors, staff nurses, field nurses and junior health workers.
- (b) Clinics: Dental clinics and eye clinics.
- (c) Special Classes: Classes for the blind, school for the deaf, school for crippled children, classes for mental defectives, open air classes, classes for tuberculous children.
- (d) Issuance of work permits.
- (e) Advisory capacity at preventorium (Children's Fresh Air Camp) and the Boys' Farm at Hudson.

***Medical Inspectors:***

There were at the time of this investigation twenty-one school inspectors with a total registration, in the elementary schools and junior highs, of 103,272 for 1919-1920. This allows one medical inspector to each five thousand pupils. These inspectors give part time, from 9 a. m. to noon five days a week. The qualifications for this position have not been standardized, other than that a degree in medicine is required. The director interviews the candidates personally and uses his judgment as to the applicants' suitability for the work. The chief incentive of many of the force is interest in the work rather than the salary paid, which is low. Each inspector is responsible directly to the director, as there is no assistant director. Each follows a schedule which has been prepared at the central office and provides for a visit by a doctor or nurse to each school practically every day. The inspector may not visit each school assigned him oftener than one to three times a week, as each doctor has from six to nine schools under his supervision.

At these school visits the doctor's routine is as follows:

1. Inspection of all children who have been selected and referred by the teachers as possible cases of illness.
2. Routine physical examination of pupils. The physical examination is in reality an inspection. It seems to be fairly competent as far as examination of teeth, tonsils and eyes is concerned, but the rest of the examination is casual and hurried, and heart, lungs, joints, musculature and hearing are examined only in special instances. Children are not undressed, nor are height and weight recorded. Apparently no investigation is made as to the health habits of the children, nor is any advice in general health habits given at the time of the medical inspection. It is evident that the so-called "physical examination" of the children is of a superficial type and that it cannot be considered either thorough or satisfactory. In fact, it does not warrant the name "physical examination," for in many

instances it seems to amount to little more than a casual inspection, certainly not thorough enough to discover physical defects except those of the most obvious types.

Plans are under way to adopt the recommendation of the Survey to improve radically this department.

### ***School Nurses:***

There are about thirty school nurses and each has under her supervision approximately three thousand school children. School nurses have the following duties:

1. To assist the medical inspectors in the physical examination of children.
2. To inspect all pupils, by rooms. This is done usually after the summer, Christmas and Easter vacations, when the children are inspected, a roomful at a time, by the doctor and nurse for signs of communicable diseases. Once a month the nurses make similar inspections, devoting from seven to ten minutes to an entire roomful of children.
3. To secure correction of physical defects found in the physical examinations by means of
  - (a) Notices and messages to parents.
  - (b) Consultations with parents at the schools.
  - (c) Visits to homes.
4. To maintain a dispensary hour in each school for treatments, dressings, emergencies and inspection of children returning to school after exclusion.
5. To give health talks to individual pupils and to classes in classrooms.

### ***1. Assisting the Doctors in Physical Examinations:***

In assisting the doctors in physical examination of school children, the work of the nurses is distinctly clerical in character. A large proportion of her time is thus taken from strictly nursing duties and the results obtained do not justify the use of nurses for the purpose.

### ***2. Inspection of Pupils in Classrooms:***

The nurses spend an entire hour or more each school day making classroom inspections of the children for the purpose of detecting communicable diseases. On account of the preoccupation of the nurses with other duties, even this necessarily superficial inspection can be repeated only at intervals of about four weeks. In the intervals the teachers must be relied upon to notice symptoms and refer children to the nurses for proper care.

### ***3. Correction of Physical Defects:***

In Cleveland at present much time is given to finding defects and recommending treatment; little time is given to seeing that those defects are remedied and the child's mode of living and home surroundings are improved. Reliance is placed largely on the sending of notification to the parents and having parents' consultations at school. The correction of physical defects and the elimination of those home, school and personal environmental conditions which may cause physical defects are among the most important activities of the school nurses, yet at the present time the unsatisfactory results of the methods used are apparent from the report of the Department of Medical Inspection for the school year 1917-1918, where it is shown that although 32,918 children were found to have physical defects, only 38.1% of these are reported as having been corrected. It is, moreover, striking to note that, according to the table of defects found and corrected,

corrections were almost all of the most obvious defects—those of teeth, tonsils and eyes—while those defects listed as anemia, scoliosis, poor nutrition, defects of the extremities, chorea, chest defects, discharging nose, cardiac disease, goitre and discharging ears—a total of 1,213 cases—showed only five corrected. For the 32,918 children found defective, the nurses had only 6,397 consultations with parents, with possible duplications included in this number, and made only 9,010 visits to the homes, thus visiting fewer than one out of every three defective children found. This small number should be in part ascribed to the fact that the nurses assisted in a very large number of vaccinations during the year, over 45,000 as against approximately 16,000 in the next year. The figures contained in the report of the Department of Medical Inspection for 1918-1919 show an improvement in the correction of defects; 32,747 defects were found and 14,295 or 43.6% were corrected. It is clearly evident that the essential follow-up work to obtain proper care and treatment for these children is almost wholly lacking. It is of no practical value to discover physical defects in children simply for the gathering of statistical data. The true test of efficiency in the matter of preventing and correcting physical defects in children is not the number found but the number which receive proper medical and health care. It is evident that neglect of this important work is due to the use of the nurses in so many other duties and to the fact that, with the limited staff, there is little time left for making home visits.

An important innovation in the field of preventive medicine and remedy of physical defects has been made in the schools of Cleveland following the demonstration of success in the schools of Akron, Ohio; namely, the detection and abatement of enlarged thyroid glands among the girls of 10 years and over. The detection is simple, by direct inspection supplemented by palpation to verify the presence of the residual stalk and the central body as well as the lateral lobes. Enlargement is found in about 80% of the girls of 10 years and over, unless they have had specific treatment under their family physician. The reduction of the glandular enlargement to normal size is easily accomplished by the use of small doses of iodide of soda in aqueous solution for a week or ten days in the fall and in the spring of the year until the age of 16. The advice is given on a printed slip as follows:

***Division of Medical Inspection and Physical Education***

***BOARD OF EDUCATION, CLEVELAND, OHIO***

To the Parents of Bearer:

Cleveland is located in a goiterous district. About one-third of our girls in the public schools above the age of ten years have some degree of enlargement of their thyroid glands or simple goiter.

The expenditure of a trifling sum yearly will prevent this affection. Three grains of Iodide of Soda taken in a glass of water once a day for ten days in the fall and again in the spring will prevent goiter. This treatment should be carried out yearly between the ages of 11 and 16 years.

***Director,***  
Medical Inspection Department.

**TAKE THIS HOME**

That surgical treatment, nutritional, circulatory, nervous and cosmetic defects are thus avoided for these children in the future by such corrective medicinal treatment can hardly be doubted. The inconvenience of residence in the goiterous region on the great glacial plateau is easily remedied by an intelligent application of the facts established by physiological research. The school children of Cleveland owe much to the studies made in this field by Dr. Marine in particular and by others whose contributions to science in the field of physiological chemistry, clinical medicine and physiology have built up the facts upon which education and specific treatment are now based.

#### ***4. Maintenance of Dispensary Hour at Each School:***

Nearly half the nurse's time is spent in dispensary work. This consists in assisting the doctor in his physical examinations, inspecting children and doing emergency dressings and treatments. This seems to be a high percentage of time for this work, and a great part of it is not properly part of the nurse's duties or of the school health service. The use of nurses for this clerical work absorbs a large proportion of their time and takes them away from their essential school duties. The treatment of minor illnesses and injuries takes a great deal of time and should properly be carried out at dispensaries located outside the school buildings. The use of nurses for this work for practically half the day reduces the efficiency of the school health work to a marked degree.

#### ***5. Health Talks to Individual Pupils and to Classes in Classrooms:***

While the nurses are supposed to give individual health talks to the pupils, it is evident that the dispensary work is so hurried as to render this impossible. As a general rule, the talks given are of a very hasty and superficial character, and it is doubtful whether they make any very lasting impression upon the children. In addition, the fact that the talk is given to the child in school and not made the subject of a follow-up visit to the home, where also the parent or guardian may be talked to, would seem to render these talks of but little value.

As to the health talks to classes in classrooms, there is always a difference of opinion as to whether they should be given by people who know how to teach but who are not necessarily experts in the subject matter, or by persons who are experts in the subject matter but who do not know how to teach. It would seem as though nurses generally come under the latter classification. In the talks on health subjects given by the nurses in the classrooms, a wide variation of ability is shown. Some of the nurses are quite competent to teach the subject, while others, although knowing their subject well, do not know how to teach. The present unstandardized, ungraded and unsystematic methods tend to diminish the value of these talks.

#### ***Field Nurses:***

Supervising nurses in Cleveland are called "field nurses." The spirit, intentions and desires are excellent and their ideas seem to be good. There are, however, too few of them to enable them to visit the staff or school nurses at sufficiently frequent intervals. Because of the unusual outside demands made on these nurses during the past year, the present average of visits was only two in a year. Last year several of the school nurses were not visited at all by the field nurses. It is evident that the question of proper supervision is not clearly understood and this is one of the most serious weaknesses in the system. The results are evident in the nurses' work, which has tended to become routine in character, often lacking in originality, in vision, in social spirit and in

up of opportunity. These nurses are performing their duties conscientiously, but without imagination. It is felt that their work could be improved if more time could be allotted to their supervision.

#### **Junior Health Workers:**

These employees, of a type which seems unique to the city of Cleveland, are giving excellent results. They are well educated women of an unusually high type, and have relieved the nurses of much routine work, in attending the doctor during physical examinations, in making efforts to obtain correction for dental defects, and taking children to dispensaries. These junior health workers are paid one hundred dollars per month. They are not under civil service regulations but are, in general, women of excellent training, college graduates, and their opportunities could be increased and their sphere of usefulness greatly extended with resultant advantage to the system.

#### **Clinical Facilities:**

There are certain clinical facilities available in the schools:

1. Emergency treatment in the dispensaries.
2. Dental clinics. These are held in six schools for half of each school day. The work is mainly on first and second grade children. Older children are sent to their own dentists or to the dental college clinic.
3. Eye clinics. There are two eye clinics, one on the east side at Brownell School and the other on the west side. In addition, there is a trachoma clinic in the Murray Hill School.

Nose, throat, ear, skin and orthopedic cases are sent to private physicians, hospitals or clinics.

Facilities for dentistry and the treatment of abnormal eye conditions are inadequate. In this respect, however, Cleveland is as well equipped as most cities in the country. The use of dental clinics, particularly for prophylactic work and oral hygiene, has not been fully recognized in the past. Plans have been made by the Department of Medical Inspection to increase greatly this branch of the work during the coming year by the appointment of capable assistants to the school dentists and by training them as dental hygienists. Also, there can be no criticism of the maintenance of special clinics for the treatment of trachoma. The Department lacks the services of an oculist to guide policies and supervise trachoma work. That is a contagious disease and its elimination is distinctly a function of the city authorities.

#### **Physical Classes:**

1. *Open Air Classes.* There are nineteen fresh air rooms in various schools, caring for about two hundred and seventy pupils. In some districts the fresh air classes can take care of practically all applicants, but, in general, there are always more pupils than can be accommodated. These classes care for anemic and sickly children and those exposed to tuberculosis. Even limiting the attendance to cases of these types, it is clearly evident that the present fresh air classes are wholly inadequate to care for the children who are in urgent need of this type of care.

Admission to these classes is decided upon by the doctors and nurses who go through the classes and, with the cooperation of the teachers, pick out

children who are considered to need this kind of treatment. The children selected include those who are lagging and are not doing well and those who come from home with insufficient food. Each child receives a complete physical examination before admission to the class. Underweight and malnutrition are considered to be sufficiently evident, without weighing, as scales are not provided by the Board of Education.

The health routine in the fresh air classes is under the control of the Director of the Department of School Medical Inspection. This official does not appoint the teachers, however, but acts in an advisory capacity to them. The nurse takes the temperature of the children in these rooms twice a month. If the temperature is over ninety-nine degrees in any case, she takes it every day until it returns to normal. She tries to have the children weighed once a month. A loss of two and a half pounds is reported to the doctor. All possible efforts are made to have physical defects corrected.

As far as possible, these children have a rest period of at least twenty minutes during the noon hour and additional rest periods are provided for individual pupils when, in the judgment of the school doctor, such rest is deemed necessary. Cots are provided by the Board of Education for these rest periods. Physical exercise for these children includes only light gymnastics and games, with much emphasis on deep breathing.

Children in the open air classes receive a lunch twice a day, consisting of milk, cocoa, graham crackers, furnished by the Federated Women's Clubs and the Board of Education jointly.

2. *School for the Deaf.* One school for the deaf is maintained. In this school seventeen teachers care for about two hundred and fifty pupils. Children are referred to the school by the school doctors when they find cases of markedly defective hearing. Children with slight defects of this kind or whose defects are under treatment usually are kept in their regular classes. The present facilities would seem to be adequate, both in quality and in their provision for the number of children needing this kind of care.
3. *Classes for the Blind.* There are classes for the blind in twelve different schools. The Department of School Medical Inspection selects the children for these classes. In addition, a number of sight-saving classes are maintained. A child is sent to a sight-saving class when it is felt that the ordinary routine of school work would damage its eyesight. These children receive a complete physical examination. Routine inspection is also made in these classes. It would seem that the provisions for caring for this class of cases are adequate.
4. *School for Crippled Children.* While a special school for crippled children is maintained, there is always a waiting list for entrance and the authorities have recognized the need for increasing the facilities. Children are referred to this school by the medical inspectors. Canvass is made also of all schools in the city for children who should receive this type of treatment. Busses are provided by the Board of Education for transporting

these children to and from their homes and to and from the dispensaries. It is evident that the facilities are inadequate and that this work should be extended. It is planned to build a new school especially adapted to the needs of these children.

5. *Classes for Correction of Speech Defects.* Eighty-one classes for correction of speech defects, with an enrollment of 1,182 pupils, are maintained. Provision for the correction of these defects by class instruction seems to be adequate.
6. *Nutrition Classes.* Special nutrition classes have been established in two schools. However, the work applies only to a small number of pupils and is intensive in character. As is well known, the causes of undernourishment are many and complex, and intensive work, taking each child individually and giving it unusual care, undoubtedly gives the best results. At the same time, it must be remembered that undernourishment is one of the most extensive and serious diseases met with during child life. The statistics for many cities and for the country at large show that twenty to twenty-five per cent of the children of school age suffer from some degree of malnutrition. It is stated that plans are under way for extension of the special nutrition work throughout the schools.
7. *Provision for Mental Hygiene.* Thirty schools have classes for mentally defective children. This subject is dealt with in the special report on Mental Hygiene, Part VI.
8. *Cardiac Classes.* There is no provision for children with cardiac disease. The need of special provision for the cardiac child in and out of school is described in the chapter dealing with this problem, Part II.

#### *School Dispensaries:*

Each school is provided with a so-called "dispensary" where emergency treatments given for minor injuries or ailments. In these school dispensaries, emphasis is laid on corrective rather than upon preventive health work or health education.

#### *Conferences:*

Doctors meet every two weeks with the Director of the Department. At these meetings papers on the Schick test, goitre, contagious diseases and so forth, are read and discussed. The nurses meet each week. The whole group meets from time to time for special lectures. To help the nurses special courses are given, tuition free, at the Summer Session of the Normal School.

#### *Health Records:*

The health records of the children are deficient. Neither the nurses nor the doctors have these records filled in properly and many of the cards do not show the essential points which would be of value in determining the type of health care the child needs. At the present time the cards do not seem to serve any useful purpose. Such records, however, should be one of the most important features of a well-organized system of school health supervision. A cumulative record card, having on it the social history, physical examination and follow-up, is being prepared by a committee of the Department of School Medical Section. The child's individual record is kept in the classroom. It is very brief and



tells little of what has been done for the child. The doctor's orders are entered on this card, but the work done by the nurse is usually, although not always, entered on the correction slip in her file. Home visits are recorded on still another card, so that any effort to check the nurse's accomplishment against the doctor's recommendations is almost hopeless. The individual health records of the children are kept on the teacher's desk. They are supposed to keep the teacher informed of the children's physical condition. These records follow the children from class to class, together with the school records. The teachers seem uninterested, however, because nothing appears on these records that would give them a clear idea of the children's physical condition.

The nurses have a habit of using the ordinary correction slips for making notes of home visits. This method is extremely bad, as it does not make for permanency and there is absolutely no way in which such records can be made the basis of analysis of work done and results obtained. The absence of monthly reports of the work of the nurses is also a factor in making it difficult to show what she has actually accomplished. It is doubtful whether any of the nurses have any idea of the amount of work they do every month and the amount that is left undone because of the number of children handled.

#### *Neglect of Statistics in Regard to Physical Defects.*

In common with most systems of school medical inspection, particular emphasis is laid upon the number of defects found and the number corrected. In this regard, however, the records of Cleveland are not complete. It is evident that results obtained in cases of physical defects are not recorded on many of the cards. It is impossible, therefore, to state the actual percentage of corrections obtained. Of two hundred cards studied it was found that 15.2% of the defects found were recorded as corrected. The report of the Department of School Medical Inspection, however, states that 38.1% of the defects found were corrected. This discrepancy is obviously due to incompleteness in the records as available to the investigator.

#### *Supervision of Control of Communicable Diseases*

Although minor complaints have been recorded about the failure of nurses to take cultures in cases of sore throat, there is no evidence to show that the doctors and nurses of the Department of Medical Inspection are not carrying on the work with reference to the control of communicable diseases in a satisfactory manner. There seems to be good cooperation between the Department of School Medical Inspection of the Board of Education and the Division of Health in this particular and the present regulations, if enforced, are adequate to protect the children and the public.

#### **2. Physical Training:**

The Department of Physical Training has charge of the physical training of children, their exercise and athletics. In addition, it makes a certain number of physical examinations of children in the junior high schools and in the high schools. There is no definite cooperation or coordination of this work with the Department of School Medical Inspection. Plans are under way for the coordination of these two departments. School medical inspection, as it is commonly understood, does not exist in the high schools. It is stated that all pupils, before they are admitted to the physical training classes in the high schools and junior high schools are examined by the teachers of physical training. This examination covers heart, lungs, eyes, back, weight, etc. It is stated, however,

that not nearly all the girls have been examined. The elementary school health records do not follow the children into the junior high schools or the high schools; therefore they are not used by the Department of Physical Training.

### **3. Health Education:**

At the present time this work is carried on in the following ways:

- (a) Through occasional classroom talks on health topics given by nurses of the Department of School Medical Inspection.
- (b) Through individual instruction of the children in the schools by physicians and nurses of the Department of School Medical Inspection.
- (c) Through instruction by the nurses, in the seventh and eighth grades, on the subject of care of babies.
- (d) The curriculum in the grammar grades provides for two forty-minute periods a week in physiology and hygiene. No material is provided the teachers for giving this course.
- (e) There is instruction in the high schools in physiology, botany, cooking, chemistry, social problems and physical training. These courses, except physical training, are elective.

In actual practice, according to conferences held with various teachers and principals little or no work in hygiene is carried out in the elementary schools. The whole matter depends upon the initiative of the individual teachers. In the seventh and eighth grades an outline has been provided, but the teachers are not obliged to follow it, and in the cases of the teachers with whom the matter was discussed, very little of it had been used. Many of the principals and teachers stated that they are eager to have definite material furnished them from which a course in child hygiene could be given. In the high schools, the work of health education, while claimed to be thorough, does not seem to be standardized. It is stated that points on personal hygiene and sanitation are covered more by chance than premeditation, that correlation between the teaching departments is weak, and that it is difficult to tell how much overlapping of courses exists. The general feeling among the teachers seemed to be that there is great need for a standardized hygiene outline—something systematic, clear and concise.

### **Examination of Teachers:**

Each teacher's contract contains a requirement that she shall receive a physical examination. The Director of the Department of School Medical Inspection stated that the teachers and custodians had a thorough physical examination two years ago, given partly by the school physicians and partly by outside physicians of the city. He stated also that no examination has been made or is contemplated of other employees of the Board of Education, but that, in his opinion, such a procedure would be desirable and that there should be a physical examination of teachers at least every year.

### **4. Sanitary Supervision:**

Sanitary supervision in the schools is primarily under the Department of Buildings. This department is directly responsible to the Director of Schools or the Chief of the Service Department of the Board of Education. The actual work is carried out by a group of employees known as "custodians," who are responsible to the supervising custodians, who, in turn, report directly to the Director of Buildings. Various sanitary standards for

sweeping, dusting, care of water closets and drinking fountains, provision of soap and towels, control of temperature and ventilation of classrooms, have been outlined by the Board of Education. The Director of Buildings states that the supervising custodians try to make sanitary inspections of the schools twice a month, and that some buildings which give a good deal of trouble are visited more frequently.

**(a) Ventilation:**

While the operation of the ventilating systems is placed under the control of the custodians, the law of the state determines the type of ventilation that must be used. It is stated that there are old-fashioned gravity heat and open window ventilation in sixty to seventy schools. There is shut window, forced draft ventilation, which is the policy of the department in all new plants, in fifteen to twenty schools. Not more than eight or ten schools have provision for humidification. One school has air washers. When the mechanically operated systems are working the windows in the schools cannot be opened without interfering with the ventilating systems.

*Open Window vs. Mechanical Methods of Ventilation.* Proof is available that children in open air classrooms or children in classrooms ventilated by open windows will increase in weight and strength, that conditions of undernourishment may be overcome and sound health re-established and that respiratory diseases may be prevented if children receive the advantages of such care. In view of these established facts, it is difficult to understand why fresh air in abundance, by means of open window ventilation, is not made available in all classrooms. From the economic point of view, the establishment of open window ventilation is not only possible but desirable. Official statements have been made that the cost of any school building in Cleveland will average \$30,000.00 per classroom. It has been stated by sanitary engineers that the cost of installing heating and ventilating plants in school buildings amounts to fifteen per cent of the cost of construction. The main objection that has been raised against the open window system of ventilation is the increased amount of heat required and the consequent expense for additional fuel. It may be estimated that the approximate cost of the ventilating plant is seven and a half per cent of the total cost of construction of the building. If the cost of each classroom is \$30,000.00, it may be seen that, in addition to the ordinary appropriations for fuel, there would be a sum amounting to \$2,250.00, available for extra fuel before the total cost of the classroom ventilated by open window ventilation would reach the estimated cost of the room ventilated by artificial means. From the point of view of health, open window classrooms are essential. The cost is not excessive and in all probability it is not greater than the present cost of school maintenance.

**(b) General Construction.**

The regulations governing general construction of classrooms require that sixteen square feet of floor space be allowed for each child. The color of the walls and ceilings is a standard soft gray. Maple flooring is required to be used in new classrooms, and tiles in corridors. In new buildings these regulations have been complied with, but they are not common in old buildings.

**(c) Temperature.**

Each classroom is supposed to be equipped with a thermometer, but no provision has been made for systematic testing of the thermometers, and the reporting of variations of temperatures is very generally left to the principals. A temperature of sixty-five to sixty-

ght degrees is recommended. In many instances investigated, however, the temperature as found to be distinctly above this standard. Upon inspection in various schools the mperature was found to be as follows:

Temperature	Total Number of Classrooms	Per Cent
Under 70 degrees F.	14	20.9
70 degrees F.	19	28.3
71 degrees F.	2	2.9
72 degrees F.	11	16.4
73 degrees F.	7	10.4
74 degrees F.	11	16.4
75 degrees F.	1	1.5
76 degrees F.	2	2.9
Total .....		67

Outside temperature was forty-five degrees F. when forty-three of these temperatures are recorded, forty-nine degrees F. when three were read, forty-three degrees F. when one were read, twenty-nine degrees F. when seven were read and thirty-eight degrees F. when five were read.

Principals, nurses, physicians and custodians interviewed seemed more or less interested in the temperature, reporting that "they looked at the thermometer when in the room," but no regular inspection of the thermometers in the rooms was found to be provided. Responsibility for the temperature of the room seems to lie between the teacher and the custodian, and is a more or less constant source of friction.

#### d) *Lighting:*

The state law requires that the relation of window space to floor area in classrooms shall be as 5 to 21. In the construction of new buildings, rooms are lighted from the left or from the left and rear. Window shades are of a new standard type, matching the indoor paint. Plans are in preparation for improving the lighting of rooms now inadequately lighted. In rooms where the lighting is artificial, the system is semi-indirect, allowing six hundred watts per room with two candle power on desks.

#### e) *Seating:*

While seating adjustments in classrooms are taken care of by the custodians at the request of the principals, inspections and requests for special adjustments are supposed to be made both by teachers and by the Department of School Medical Inspection. About fifty per cent of the schools are equipped with adjustable seats. Forty per cent of these schools have what are known as "shifting" classes, so that the seats are not continuously occupied by the same pupils.

**(f) Cubic Air Capacity:**

The state law covers the distribution of cubic air capacity and floor space. The number of children allowed in a room about 24 x 28 is now forty-two (eighteen square feet per capita). The ordinary system of ventilation allows for changing the air in these classrooms six times per hour. This change of air is recorded by a meter which is checked up by the Department of Buildings. Inspection of the proper functioning of the ventilating system, to check up the required number of changes of air per hour, is made by the supervising custodians.

**(g) Blackboards:**

In new schools blackboards are generally adjusted in height according to the age of the child. These adjustments have not been completed, however, and at the present time a number of schools still need to have their blackboards replaced at the proper heights.

**(h) Cleaning:**

Definite rules are given to the custodians with regard to sweeping, dusting, window-washing, scrubbing, etc. Thorough inspections as to cleaning are made in September, at Christmas and in the spring. The custodians are supposed to visit classrooms at least once a month, and more often if conditions warrant. Five or six schools are equipped with vacuum cleaning systems.

**(i) Drinking Facilities:**

All schools are equipped with drinking fountains, but not every school has as many fountains as the number of children requires. Practically all these fountains are located in basements. They are of standard type, with pressure jet. In the type of fountain used, the flow of water through the outlets can be regulated to the water pressure, but in many cases the fountains investigated did not have sufficient force to obviate the danger of communicating disease. In some of the fountains seen the force was scarcely sufficient to carry the water over the side of the nozzle. The greatest force in any fountain seen was only sufficient to raise a stream about two and one-half inches. All fountains seen were vertical in type. Some had a continuous stream, while in others it was necessary to turn on the water. It was impossible to place any responsibility for the control of the condition of these fountains, although the matter of adjustment of the proper functioning of the fountains as to pressure and cleanliness is supposed to be left to the custodian of the building.

**Summary of Drinking Fountains Inspected**

Number Inspected	Height of Water	Per Cent
9	Practically no force	12.7
6	$\frac{1}{4}$ in.	8.4
16	$\frac{1}{2}$ in.	22.6
12	$\frac{3}{4}$ in.	16.9
5	1 in.	7.0
8	$1\frac{1}{2}$ in.	11.3
5	2 in.	7.0
10	$2\frac{1}{2}$ in.	14.0
—		—
71		99.9

It will be seen that only twenty-one per cent, or about one-fifth, of all the fountains had a force of two inches or over, which the Department of Buildings gave as the standard to be achieved, and certainly desirable in the interest of health protection.

**Toilets:**

One toilet is allowed for each fifteen girls and one for each twenty-five boys. The number now provided is below the standard required by the state law. Inspection of the toilets is made by the Department of School Medical Inspection once a month, and some physicians also stated that they made periodic investigations. Other physicians stated that they had no responsibility in the matter. No report of conditions found is registered unless complaint is made. Unsatisfactory conditions are reported either to the custodian, the principal or to the Department of School Medical Inspection.

### RECOMMENDATIONS

**School Medical Inspection in Parochial and Private Schools:**

*Parochial Schools:* Provision should be made, either in the budget of the Division of Health or through private contribution, for immediate extension of the school medical inspection service to all parochial school children in the city of Cleveland. There are now about thirty-five thousand children in attendance at these schools. If the city cannot appropriate sufficient funds at the present time, it would be very desirable if the parochial school authorities could undertake the work themselves, but, ultimately, it should be carried on by the Division of Health. It is evident that the type of health supervision which has been shown to be so essential for children in the public schools must be equally essential and desirable for children in the other free schools of the city. Their needs in this respect should no longer be neglected, nor should there be any discrimination practised in the matter of health supervision against any group of children who are receiving instruction in any schools.

*Private Schools:* In discussing the question of health of school children, a point has arisen which may not be considered within the scope of this particular inquiry, nevertheless, as the health of all children of the city of Cleveland must be considered in any adequate program for child hygiene, it is recommended that rules and regulations be drawn up by the Division of Health for the sanitation and hygiene of the private schools of the city, and that standard methods of health supervision be devised, also, in cooperation with the private school authorities, and that they be put into effect in the private schools under the auspices and at the expense of the schools in question.

**School Medical Inspection in Public Schools:**

Much of the work carried on for the health of the children in the public schools of Cleveland is of an extremely high type and warrants commendation. The present form of organization, however, is a great drawback to the efficiency of the work and, in addition, there are numerous points in connection with the various types of work where changes

are indicated. Lack of coordination of the different types of health work is a serious detriment. There are many points of overlapping of function. For instance, the custodians are responsible for the sanitary and hygienic maintenance of the school buildings, yet it is apparent that control of proper ventilation, adjustment of seats, attention to drinking fountains and toilets, and general sanitary surveys, with adjustment of complaints, are left to the sporadic attention of teachers, doctors and nurses. This neglect to fix definite responsibility and to have well-directed, central control is manifest throughout the system.

In order that the health of children of school age in Cleveland may receive adequate protection, the following program of reorganization, readjustment and the addition of new activities is suggested:

**Organization:**

*There should be coordination of all services dealing with health; that is, the Department of School Medical Inspection and the Department of Physical Training, the Department of Sanitary Supervision and the teaching of health education should be under the control of a single individual, an assistant superintendent of schools. This employe should be a full-time employe, preferably a physician, at a suitable salary. The department might be called the "Department of Health Supervision of School Children." The director of this department should be in full charge, and there should be two Assistant Directors, one in charge of the work of school medical inspection and one in charge of physical training. The Director of School Custodians should be under the jurisdiction of the Director of Health Supervision of School Children, and the control of subject matter for health education should be placed with the Bureau of School Medical Inspection.*

Specific recommendations are offered as follows:

**School Medical Inspection:**

**1. Personnel:**

*The number of school medical inspectors should be increased so that there is one doctor for every three thousand children. There should be included on the staff an oculist who would act as consultant in regard to trachoma cases. The number of nurses should be increased so that there is one nurse for every two thousand children. The number of junior health workers should be increased so that there is one for each nurse.*

**2. Duties:**

**(a) Duties of School Doctors:**

**1. Sanitary Surveys:**

*At the beginning of each term the school doctor should make a complete sanitary survey of each school under his jurisdiction. This survey should be fol-*

used up by a report outlining conditions of sanitation and hygiene found in each school and classroom, calling attention to any changes or readjustments to be made or new equipment or replacements necessary in order to maintain the classrooms in a wholly hygienic and sanitary condition. Comment should be made also upon the nature of the routine supervision of the hygienic and sanitary condition of the school building and classrooms. These reports should be made out on a standard form and, when completed, should go to the Director of the Department and by him be transmitted to the supervising custodian for adjustment. The latter should thereupon see that the matters complained of be readjusted, then report back to the Director of the Department of Health Supervision of School Children.

*Physical Examination:*

*Physical examination should be made by the school doctors of all pupils in the schools in the following order:*

- (a) Children entering school for the first time.*
- (b) Children specially referred by teachers or nurses.*
- (c) Children in the third grade.*
- (d) Children in the sixth grade.*

It is realized that this outline is a marked departure from the present practice, but unless the number of physicians employed can be increased sufficiently to warrant such a course, no attempt should be made to give the children a physical examination each year. With the present staff such an examination must be superficial and of little value. If only a small appropriation can be made available, it should be devoted entirely to the children of the earlier age groups. Extensive investigations have shown that the number of physical defects found in school children reach their height in the ten to twelve year period. Examination of 356,000 children, with a tabulation of the physical defects found, by type, age and sex is shown on the "graph" which follows. It is evident that the time to deal with physical defects is when they first appear or when they are increasing in frequency. Until this period of life can be cared for in an adequate manner, it cannot be considered a proper expenditure of public funds to make examinations of children whose defects are decreasing in number, and on whom the damage caused by previous defects has already made a definite impression. It cannot be stated too strongly that the time when children need the prevention, detection and correction of physical defects is in the very early age periods, that is, under ten years of age, and unless provision can be made for making the present type of physical examination more adequate, the recommendations made above as to the routine physical examinations should be carried out.

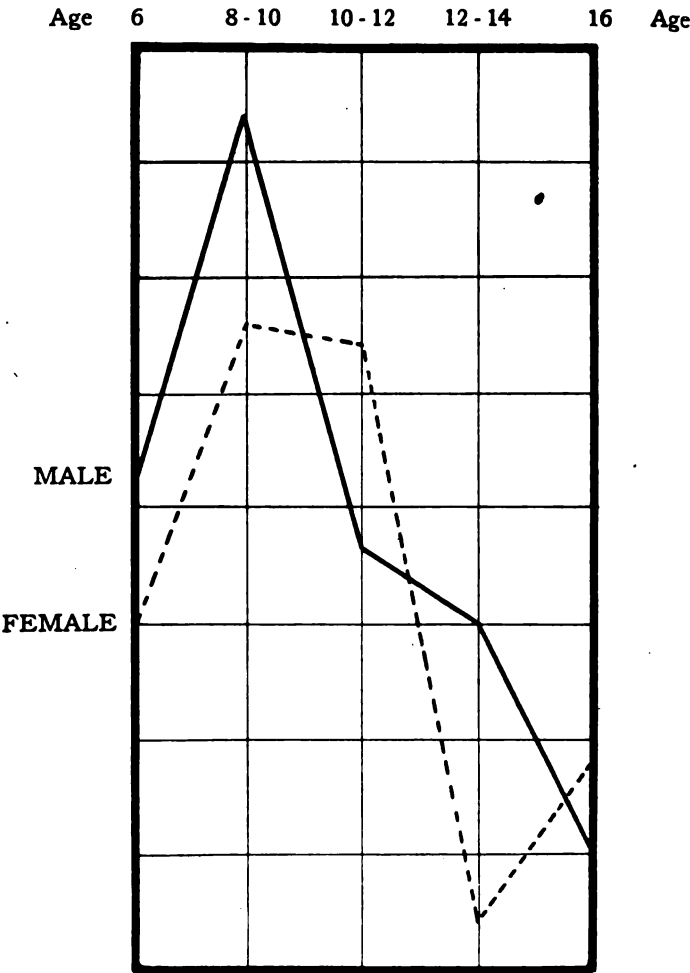
In a properly organized system of school medical inspection, the nurse's routine inspection of all pupils in the classrooms once a month should detect any cases of physical defects that need attention. This class of cases is referred to under subdivision (b) above, and with the regular physical examination three times during the school life of the child, in addition to an immediate physical examination of every child who is found to have any physical defect or who needs attention in any way, it should be practically impossible



for children to reach the upper grades in school life and still be found to have pl defects which interfere with their health or progress. It is recommended that the pl examination cover the following points:

- (a) *Palpation of cervical glands and thyroid gland.*
- (b) *Thorough inspection of posture, with palpation of scapulae, chest and hips, also testing of poise.*
- (c) *Testing of hearing, right and left ears separately, with watch.*

"Graph" of Incidence of Physical Defects in School Children by Age Periods and Se



- (d) Testing of vision.*
- (e) Taking of height and weight.*
- (f) Examination of nutrition.*
- (g) Examination, preferably without shoes, for flat feet.*
- (h) Examination of heart.*
- (i) Examination of lungs in all cases.*

*Re-examinations should be made of all children after treatment has been decided for the correction of physical defects. Record should be made on the child's physical record card of its condition at this time. If it is evident that the treatment has not been effective, further follow-up work should be carried on and no child should be finally discharged until its defect has received adequate attention.*

#### ***Special Examination of the Heart:***

*Special examination should be made of the heart of each child who has been treated on account of diphtheria, tonsillitis, measles or scarlet fever.*

#### ***3. Health Conferences:***

*The school doctors should hold frequent health conferences with the children. They should give them individual instruction in the care of their health. Whenever possible, they should induce the mothers to be present at the time when the children are physically examined so that conference may be had with both mother and child.*

#### ***4. Emergency Treatments:***

*The medical inspectors should carry out only such emergency treatments as may be absolutely essential, and thereafter children so treated should be referred to their private physicians, hospitals or dispensaries for the necessary treatment.*

#### ***5. Instruction of Teachers:***

*The medical inspectors should, by means of group conferences and individual talks, instruct all teachers of the classes under their supervision in methods of detecting symptoms and signs of illness in children, with particular reference to infectious diseases as well as the early symptoms of physical defects or any other signs of ill health. These conferences should be repeated at sufficiently frequent intervals so that there may be no doubt as to the teachers carrying out the instructions they have received.*

#### ***6. School Visits:***

*Each school under the supervision of the medical inspector should be visited by him at least three times a week. At each visit, in addition to attending to*

*his other duties, he should consult with the nurses to determine whether the matters under his jurisdiction are being cared for in an adequate manner.*

**(b) Duties of the School Nurses:**

*The schools nurses should—*

*1. Be relieved at once of all clerical duties in connection with the physical examination of school children. Junior health workers should be used for the purpose of recording all essential data and assisting the doctors by doing the writing that is necessary.*

*2. Have under her jurisdiction not more than two thousand children.*

*3. Visit each school under her supervision each morning and examine all children referred by the teachers as suspected cases of infectious diseases, excluding indicated children from school attendance.*

*4. Inspect all children who have been absent from school three days or more because of illness, to see that they are in proper condition to return to their classes. If they have been absent because of contagious disease, she should see that they have the proper certificates showing that they are no longer likely to spread infection.*

*5. Hold school consultations with parents in cases where the children's physical condition needs readjustment.*

*6. Have health conferences with individual pupils or groups of pupils. These conferences should not be superficial in character but should be distinctly health talks with the children, with careful consideration of the individual problems of each child. Each health conference should be followed by a visit to the home, where the parent and child may be talked with together and the child's home environment adjusted where necessary.*

*7. Devote at least half of each day to follow-up visits to the homes. The home environment should be studied and readjusted to the needs of the child. Matters of home ventilation, cleanliness, condition of toilets, proper disposal of refuse and all environmental matters likely to affect the health of the child should receive careful attention. In addition, the home routine and hygiene of the child should be outlined carefully so that the mother may follow it out in detail.*

*8. Make every effort to see that the child receives appropriate treatment in all instances where physical defects exist. Such cases should be followed up carefully and frequent and sufficient home visits should be made to be sure that the child is receiving proper and adequate care and that its defects have been corrected, and that everything possible is being done to prevent the occurrence*

*ther physical defects. Cases should not be terminated or considered closed if every effort has been made to see that the child is placed under proper conditions and has received the essential care.*

*9. Make routine inspection of all children in their classrooms not less often than once a month to discover and refer to the doctor any contagious eye or skin disease, any symptoms of illness or any sign of physical defect.*

*10. Consult with the teachers at frequent intervals regarding the condition of individual pupils and readjustment of classroom activities and environment for the benefit of the child.*

**Duties of Field or Supervising Nurses:**

*1. The field nurses should be increased in number so that there will be one to every ten staff nurses. They should—*

- (a) Hold conferences with the nurses under their jurisdiction at least once a week. Occasionally, some special speaker may be asked to address the nurses. At these conferences consideration should be given to case histories, the various individual problems confronting the nurses, criticisms of the service or suggestions for its improvement, and to matters pertaining to the proper conduct of the work.*
- (b) Visit each nurse at her school at least once a week for the purpose of conferring with her upon all matters pertaining to the work. There should be inspiration and assistance as well as criticism given to the nurses on these visits. Routine investigation of records is not sufficient. The live, vital and manifest interest in the importance of the work carried on by the nurse and her ability to conserve the health of the children should receive first consideration.*
- (c) Feel responsible in every way for the conduct of the work of the nurses under her jurisdiction. Because the efficiency of the work will depend very largely upon the type of supervision carried on, field nurses should be women of excellent training and broad social vision. They should have a genuine liking for public health work and for children, and should have executive ability and the power to inspire others.*

**Duties of Junior Health Workers:**

*1. The number of junior health workers should be increased so that there be one for each nurse. These employees should—*

- (a) *Assist the doctors in all physical examinations, make the necessary records, do all clerical work required and carry on whatever other functions may be indicated.*
- (b) *Assist the nurses in all their school duties.*
- (c) *Make home visits to children whose families have already been visited by the nurses.*
- (d) *Take children to dispensaries or clinics for treatment.*

It is obvious that the position of junior health worker is one of increasing importance and that the duties cannot be strictly outlined at the present time. They may be extended and added to from time to time and the sphere of her usefulness greatly increased.

### **3. Physical Defects:**

*More emphasis should be placed upon the prevention rather than the correction of physical defects. In order to do this the following recommendations are made:*

- (a) *There should be greater attention paid to the hygiene of the school building and its proper adjustment to the child's physical needs.*
- (b) *The nurses should make more home visits and at such home visits should pay particular attention to readjustment of environmental and other conditions which may have any relation to the production of physical defects. The effect of home conditions in the preservation of health and prevention of disease should be a matter of careful study and well-thought-out attention.*
- (c) *More careful examination should be made to determine the presence of physical defects, particularly in their early stages and in the younger age groups. This early detection should lead to early correction, and in any case the physical examination should offer an opportunity for the type of health instruction which will prevent the occurrence of defects in the future.*
- (d) *The health records should be made a more integral part of the child's school life and should follow it from the baby health center, through the pre-school age, school age and high school or into industry.*
- (e) *The doctor and nurse should pay more attention to individual health talks with the children and to health instruction in the*

*classrooms. The question whether health teaching or the teaching of hygiene is an academic function must be given careful consideration.*

#### **4. Clinic Facilities:**

##### **(a) Dental Clinics:**

*1. There should be more dental clinics and as rapidly as possible provision should be made for at least one dental clinic for each four schools. This number is given as the minimum for effective work.*

*2. Not only should the present methods, which are based upon treating children of the first and second grades, be continued, but the work should be extended in the following manner:*

- (a) An oral hygienist should be assigned to each school. The function of these oral hygienists should be to examine and thoroughly clean the teeth of the children of the first and second grades at least once each term, to chart out all dental defects and refer such children to their family dentists for proper treatment. If treatment is not obtained, the children should be referred to the school dentists. The oral hygienists should also assist the dentists in every way possible, conduct tooth brush drills and give talks on dental subjects to the children in the classrooms. After a child has once been placed under the care of a dental hygienist, it should be required to report at least once each term during its entire school life for careful dental inspection.*

#### **5. Special Classes:**

##### **(a) Open Air Classes:**

*The relation of fresh air to health is one of such vast importance that it cannot be considered that the schools have done their full duty in this matter simply by establishing open air classrooms. However, classrooms of this type do seem to fill a certain need at the present time, and until matters can be arranged so that all classrooms shall have the benefit of free and adequate ventilation, and until all children can have the continuous health supervision which is now given to the children in the open air classes, classrooms of this type should be extended as rapidly as possible.*

*There should be*

- 1. At least one open air classroom in each school. If the number of children found to need this special kind of care is in excess of the capacity of the one classroom, ample provision should be made to care for all such children.*

**2. Provision for a special lunch for all children in these open air classes such as is provided in the open air classes already established. This lunch should be a feature of all future open air classrooms.**

**3. A standard covering the type of children to be admitted to these classes, as follows:**

- (a) Children exposed to tuberculosis at home, or in whose family there has been a recent death from this disease.**
- (b) Children who have had tuberculosis, which is now arrested or cured.**
- (c) Children suffering from malnutrition.**
- (d) Children who become tired easily or show languor or fatigue before the end of the day, and on this account are unable to carry on their class work.**
- (e) Children suffering from nervous diseases, except chorea.**
- (f) Children who are absent frequently because of colds, bronchitis, etc.**
- (g) Children suffering from cardiac disease, who are recommended by their private physicians as proper cases for these classes.**

**4. Provision for weighing and measuring the height of these children once a term and weighing once each month. There should be in each room a class record showing the height and weight of each child. This record should be available to the physician and nurse at all times.**

No attempt has been made to outline a proper method of conducting open air classes. There is much literature on the subject which gives in detail the manner in which effective work of this kind may be maintained.

**(b) Nutrition Classes:**

Without in any way attempting to disparage the value of intensive work for the correction of undernourishment in children, it is obvious that work of this type is too expensive to be extended to all children in Cleveland who may be in need of such attention and supervision. The problem of undernourishment, however, is an extremely serious one and no effort should be spared to make every provision possible for seeing that this condition is prevented, or, if it occurs, that it receives proper attention at the earliest possible moment. For these reasons a system or organization, possibly less thorough but more far-reaching, is suggested. It is designed to reach every child who is found to be undernourished.

In order to accomplish this, it will be necessary to classify all children as to their degree of nourishment and to take whatever steps may be necessary to see that their environment or personal hygiene is so adjusted that the proper balance of health may be restored. The following recommendations are made for this purpose:

**1. At the time of physical examination each child should have its weight and height recorded and its degree of nourishment classified. Two standard methods are recommended:**

- (a) Relative height and weight in accordance with standard tables. Any child ten per cent below the proper weight for its height may be considered undernourished.**
- (b) Grading according to the Dunfermline scale. As it has been found that many children may have the proper relative height and weight and still be undernourished, the technical ability of the doctor may be drawn upon to determine whether or not any undernourishment exists. For this purpose the use of the Dunfermline scale is recommended.**

**2. There should be in each classroom a chart for recording height each term and weight each month for each child. This height and weight record may be kept by the teacher or by some specially appointed monitor in each classroom. It is obvious that for this purpose a scale should be provided in each school.**

**3. Every matter pertaining to school life, instruction, sanitation and hygiene, which influences the health of the child should be adjusted. This is particularly necessary with regard to provision for proper ventilation.**

**4. Every undernourished child should receive individual health instruction from the doctor or nurse in the school, and its school life should be adjusted to meet its particular needs.**

**5. Home visits should be made to each case of undernourishment. Matters pertaining to hygiene and sanitation of the home, proper ventilation, food and adjustment of hours of sleep, study and play are important points to be considered, with provision of sufficient rest and absence of excitement.**

**6. In the work of health education in the schools, particular attention should be paid to the importance of health games, especially for the younger children. The type of work carried on by the Child Health Organization is particularly recommended.**

#### **6. School Dispensaries:**

**The name of these dispensaries should be changed to something more indicative of their real function. "Health Office" is suggested as more closely describing the service provided there. While it may be a distinctly humanitarian effort to provide treatment in the schools for the children, it cannot be considered part of a well-conducted system of school health supervision. Corrective work of this nature does not belong in the schools but is essentially the function of dispensaries conducted under other authority and organized for that**



*purpose. The full time and efforts of the medical inspectors in the schools should be given to their proper function of prevention of disease and ill health, and the diagnosis of abnormal physical conditions in the school children. As far as emergency treatment is concerned, the doctor or nurse should give such care where it is necessary, but in every instance they should refer the child for further treatment to the private physician, hospital or dispensary. In other words, the school dispensaries should discontinue the function which their name implies. The school building is not a place where sick children should be treated, but a place where children's health should be conserved and ill health prevented. Work of a corrective nature should be carried only as it may be necessary for diagnostic purposes or for first aid or emergency treatment. The only exception to be made to this rule is in cases of contagious eye and skin diseases, where it is difficult or impossible to obtain treatment elsewhere and still have the child remain in attendance at school.*

#### **7. Records:**

*The child's health record should be continuous and reach from the health center, through the pre-school age, the school age, into the junior high school or high school or follow the child into industry. In the absence of a continuous pre-school health record, a beginning should be made as soon as the child enters school. In order that such a health record may be made effective it is recommended that*

- (a) The health record should appear on the same card as the school record and should be brought by the child to the doctor each time it is physically examined. On it should be noted all observations made by the school doctor, the school nurse or the teacher regarding the health of the child, and the results of treatment obtained for any physical defects.*
- (b) During the time the child is in school the record should be the property of the school and should be filed in the office of the principal or clerk or in the individual classrooms. They should be available to the doctor or nurse at any time but should not be taken from the classrooms.*
- (c) Criticism of the present form of health record would seem to lie not in the information it asks for but rather in the negligence that has been shown in failing to keep these records up to date.*

#### **Physical Training**

Recommendations will not be made with regard to the work of physical training but rather to the recognition of much of this work as an integral part of the health supervision of school children and its relation thereto. As at the present time this work is carried out mainly in the junior high schools and the high schools, it is recommended

- 1. That the Department of Physical Training should be an integral part of the Department of Health Supervision of School Children. The methods of physical examination should be standardized and made to include all children in the junior high schools and the high schools. If this department is to participate in the work of teaching hygiene, it should follow the standardized outline which will be discussed under the heading of "Health Education," and this work should be continuous with and part of the entire program for the health education of the children.*
- 2. That every child in the junior high schools and the high schools take with it its school record from the elementary schools and that such health record be available for the purposes of the Department of Physical Training.*
- 3. That the physical examinations carried on by the Department of Physical Training be thorough and follow the same routine as has been outlined for the physical examination of children in the elementary schools.*
- 4. That classes for the correction of bad habits of posture be established as part of the work of the Department of Physical Training.*

#### **Health Education**

Organized, consistent education with relation to all the factors which maintain sound health in the individual should be carried on throughout the entire school life of each child. A certain amount of health care can be enforced from without but the most important, fundamental provision for community health in the future lies in each child's gaining and applying the knowledge which is essential for the individual maintenance of personal health and the extension of all community forces for the purpose of promoting the health of the people as a whole. Health education of all children may be considered the most important part of any program of health supervision. In order that such a program may be available for the children in the schools of Cleveland, it is recommended that:

- 1. Health education be considered a function of the teaching staff. As it is, however, a matter connected so closely with health matters, a committee should be appointed, advisory to the Director of Child Health, representing all phases of the health program, and this committee should work out a complete plan of health education throughout the school system, coordinating the work of the several departments in this regard.*
- 2. A syllabus be prepared for instruction in health and personal hygiene, for use in different grades of the public schools, and that another syllabus be prepared for use in the high schools and junior high schools. These syllabi should contain specific in-*

*struction in the causes and methods of prevention of disease. The instruction should not be of an academic nature but of a type which makes a direct appeal for the child's cooperation. In other words, children are not interested in health for health's sake. They must be taught the value of health and the way to attain it. In this way their active and interested cooperation may be enlisted. Such syllabi, therefore, in addition to teaching, might readily give directions for a detailed health program covering a full day in the life of a child at different ages.*

- 3. The program should make definite provision in the high school curriculum for regular courses to cover the main points of personal hygiene, physiology and sanitation, and should provide for proper correlation of other subjects, such as botany, cooking, chemistry and social problems.*
- 4. The course on health education should be compulsory and not elective in the schools of all grades.*
- 5. A syllabus should include a course of instruction on the causes and prevention of infectious diseases.*
- 6. A definite schedule should be outlined and maintained for health talks to groups of children, such talks to be given by the doctors and nurses of the medical inspection staff.*
- 7. Individual health talks should be given to the children by the doctors and nurses of the medical inspection staff. These individual health conferences have already been referred to and should constitute part of the work connected with the physical examination of each child.*
- 8. Health talks to the teachers should be given from time to time. The services of various specialists should be obtained for this purpose and talks should be on subjects connected with health and hygiene, with particular reference to their application to the health of childhood. Such talks might well be accompanied by the distribution of appropriate literature on health topics, to be written and published by the Division of Health.*
- 9. The Board of Education should accept the services of the Red Cross Teaching Center to carry on this work until such time as appropriations can be made for the purpose.*

**Examination of Teachers.**

- (a) Teachers should receive a physical examination on entrance into the service and each year thereafter. This work might be done by the medical staff of the school medical inspection service.*

- (b) *The results of these physical examinations should be available to the respective teachers and should be used by the Board of Education as a basis for proper assignment of teachers to special duties. Measures by which these physical examinations can be made of practical value will readily suggest themselves; for instance, teachers who are anemic, undernourished or who have a tubercular tendency should be assigned to teach in the open air classes so that their health may be benefited thereby.*

**Sanitation and Hygiene of School Buildings and Classrooms.**

**Administration:**

There should be better cooperation between the Department of Buildings and the Department of School Medical Inspection. The plan of organization already suggested would place both these departments under the same authority. The Department of Buildings should be responsible for the sanitation, hygiene and healthful maintenance of the schools and classrooms. This work should be its primary duty, and while it should act upon complaints, it should be the purpose of the department to initiate the necessary methods by which proper sanitation may be maintained.

Specifically, the duties of the custodians of the schools should be as follows:

- (a) *To receive reports of sanitary surveys, make proper and detailed investigation of all matters found to need attention, correct all wrong conditions so far as that may be possible, and where correction by individual effort is not possible, refer the matter to the proper authorities. After completion of these investigations and correction of wrong conditions, the custodians should report back the results of their inspections, and the action that has been taken. These reports should be forwarded on a special blank, through the official channels, to the Director of the Department of School Health Supervision.*
- (b) *To carry on a regular weekly inspection of the building and classrooms. This inspection should not be perfunctory but should follow standardized lines and should include inspection of all features of the school buildings and classrooms which may affect the health of the children. Any condition which is found to be below standard should receive immediate attention, without waiting for a specific complaint.*
- (c) *To receive and act immediately upon all complaints made by teachers, doctors or nurses and to report back to the proper authorities what action has been taken with regard to the complaint.*

*(d) To hold themselves absolutely responsible for seeing that the rules and regulations of the Board of Education in regard to ventilation, temperature, seating, drinking facilities, toilets, sweeping and dusting, provision of soap and towels, are carried out in an orderly and systematic manner. If this is done as a result of weekly inspection, there would be little opportunity for complaint as to maladjustments or infractions of the rules.*

## **2. School Hygiene:**

Special consideration should be given to the detailed features of school hygiene, as follows:

### **(a) Ventilation:**

Proper ventilation of classrooms is the most important single feature of school hygiene.

A sufficient supply of fresh air will prevent the spread of infectious disease, prevent physical defects, increase resistance to disease and lay the foundation for sound health not only during childhood but in adult life.

It is recommended that:

#### **1. Steps be taken**

*(a) To amend the state law so that it will be possible to discontinue all methods of artificial ventilation of classrooms, except in those cases where open window ventilation is impossible.*

*(b) To provide for the necessary methods of open window ventilation by the proper types of windows and window boards.*

*2. Open window classrooms be maintained at a temperature between sixty and sixty-eight degrees and that in all instances where the temperature is below sixty degrees the necessary additional wraps or blankets be provided for the teachers and children.*

### **(b) Temperature:**

High temperatures in classrooms are found to be extremely prejudicial to good health.

It is recommended that:

*1. A thermometer be placed in each classroom and that the temperature of the classroom as registered by this thermometer be read twice each day by the teacher and recorded in a book kept for that purpose.*

*2. The temperature in any classroom should not be allowed to remain above sixty-eight degrees Fahrenheit. When a tempera-*

*ture above that point is registered the custodian should be notified at once so that he may take whatever action is necessary to restore the proper temperature.*

**c) Seating:**

Postural defects are so definitely caused by improper seating arrangements in classrooms that it is of the utmost importance to outline some plan whereby seats and desks may be adjusted to suit the individual children. The present system of "shifting" classes renders it extremely difficult to outline any method by which these adjustments may be made, as the same child may not occupy any given seat for two days or even two hours in succession. If it is impossible to adjust the curriculum in a way that will help to solve this problem, and since the rooms used by these "shifting" classes are likely to be used by children ranging in age from six to fifteen years, it is recommended

- 1. That rooms used by such classes be divided into group units, each such unit to be occupied by children of a given age group. Once each term the seats in these classes should be adjusted for the average age groups that will occupy the rooms. In this way the children will use seats and desks that are approximately suited to their ages, even if not entirely so.*
- 2. That in cases where the children can continue to occupy the same classroom throughout the entire term, the seats be adjusted to their individual requirements. It is suggested that the following standard be used: seat to be two-sevenths the height of the child, desk three-sevenths, top of desk to extend over the front edge of the chair for a distance of at least two inches.*

**d) Toilets:**

*The standard required by the state law governing the number of toilets to be provided in school buildings is adequate and provision should be made for its enforcement in every instance where the number at present provided is below that required. The custodians should be held responsible for the condition of the toilets and this matter should not be left to the school doctors and nurses. The custodians should be required to carry out in detail the provisions of Rule 'II' of the Rules and Regulations for the Government of Custodians. Such inspection and supervision, if carried out in accordance with these rules and regulations, would be all that is necessary to keep the toilets in proper and sanitary condition. Whatever criticism may be made of their condition at the present time must be based upon the fact that the rules are ignored, not that they do not contain the proper provisions for the subject.*

**e) Drinking Facilities:**

- 1. The proper number of drinking fountains should be provided in each school building.*

2. *The drinking fountains used should be of a type which makes it impossible for the child to touch the nozzle with the mouth while in the act of drinking.*

3. *Sufficient water pressure should be maintained at all times so that the flow of water from the nozzle will be of sufficient force to carry the stream not less than two inches in an upright direction.*

4. *As fast as new drinking fountains can be installed, it is recommended that the type be used where the stream of water from which the person drinks is caused by the confluence of numerous other streams of water. Such a type has no part that can be touched by the mouth of the child, therefore it cannot in any way be considered a possible source of transmission of infectious diseases.*

5. *Drinking fountains should be inspected daily by the custodians and at all times should be kept in a workable and cleanly condition.*

**(f) Soap and Towels:**

1. *The schools should be provided at all times with facilities so that the pupils may wash their hands. Rule X of the Rules and Regulations for the Government of Custodians should be adhered to.*

2. *The children should be instructed by the teachers, doctors and nurses to wash their hands each time after coming from the toilet and before each meal. It should be the duty of the teachers to question the children as often as may be necessary in order to see that this practice is carried out.*

**(g) Sweeping and Dusting:**

*As rapidly as possible, in all new buildings constructed, provision should be made for vacuum cleaning systems, and all sweeping and dusting should be done by that method. Rules and Regulations for the Government of Custodians with regard to sweeping and dusting and other cleaning of the school building and its equipment should be adhered to in every particular. These rules are excellent and, if applied, would furnish all necessary protection to the health of the children. When neglected and not complied with, however, this neglect is a menace and immediate steps should be taken to see that provision is made for proper enforcement of the regulations.*

**ISSUANCE OF WORK CERTIFICATES**

*Recommendations for changes in the law controlling the issuance of work certificates and in the methods of enforcing the law, are made in the report on "Children in Industry," to which reference is made, Part VII.*

## Conclusions

The only adequate test as to the success of any efforts for child hygiene lie not in the statistics of immediate achievement but in the results to be seen in later years.

The effectiveness of prenatal work must be measured, not by the number of mothers who reach their period of confinement in good health but in the number of babies who die in the early months of life from congenital defects and diseases, and the number who survive in good health.

Proper maternity service must be measured not only by the reduction in the maternal mortality rate but by the future health of the mother and child.

Efforts for the care of babies cannot be measured by consideration of the infant death rate alone. It is not enough merely to keep a baby alive during its first year. The true test of the efficiency of this work is the knowledge that these children survive the perils of early childhood and are alive and well at a later period than infancy. The reduction in the death rate under five years of age is the only sure index of the worth of the care given under one year of age.

The care of the child during the pre-school age (from two to five years) does not finally show itself in the reduction of the sickness or death rate during those ages. The true test comes later. Are these children in sound health when they enter school? Have their physical defects been prevented or corrected in their incipency?

Efficient school health supervision is reflected not in the number of defects corrected or the number of physical examinations made. If the health work for children has been adequate previously, and they come to school in good physical condition, our efforts must be directed towards seeing that neither the school nor the home life at this period interferes with their future development, and that the conditions under which they live, whether in the school or at home, are in accordance with the best that modern hygiene and sanitation can offer. Retardation and failure to pass examinations for physical reasons are an indictment of the health work so far performed, but the real object is not to achieve this result. It is to safeguard the child, to keep it in good health and to teach it the principles and practice of those measures which will assure good health not only to the child but to the whole community in which it lives.

The test of all health work for children lies, then, in the prevention of disease during infancy and childhood, in the building up of a robust, well-developed and physically and mentally sound boy or girl, one who is capable not only of withstanding the hazards of disease during child life but who understands the rules of health and so applies them that soundness of body and freedom from disease is assured during all of its adult life. This is the goal and the ultimate object to be attained in our work for children. After



adolescence they can use for themselves the information they have acquired; during childhood we have the opportunity to see that the foundation for this future good health is laid securely. It is neither a difficult nor a costly matter to assure to each child in each community its full heritage of sound health. Children are the only real wealth the nation possesses, and it is our privilege as well as our duty to care for our children and to give them with a free hand those opportunities for health which they are unable to obtain for themselves.

# **THE CLEVELAND HOSPITAL AND HEALTH SURVEY REPORT**

## **List of Parts and Titles**

- I. Introduction.**  
General Environment.  
Sanitation.
- II. Public Health Services.**  
Private Health Agencies.
- III. A Program for Child Health.**
- IV. Tuberculosis.**
- V. Venereal Disease.**
- VI. Mental Diseases and Mental Deficiency.**
- VII. Industrial Medical Service.**  
Women and Industry.  
Children and Industry.
- VIII. Education and Practice in Medicine, Dentistry, Pharmacy.**
- IX. Nursing.**
- X. Hospitals and Dispensaries.**
- XI. Method of Survey.**  
Bibliography of Surveys.  
Index.

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# Tuberculosis

## PART FOUR

Cleveland Hospital and  
Health Survey



# **Tuberculosis**

## **PART FOUR**

**Cleveland Hospital and  
Health Survey**

**Copyright, 1920**  
**by**  
**THE CLEVELAND HOSPITAL COUNCIL**  
**Cleveland, Ohio**

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## Preface

The Hospital and Health Survey of Cleveland was made at the request of the Cleveland Hospital Council.

The Survey Committee appointed to be directly responsible for the survey and through whose hands this report has been received for publication consisted of the following:

MALCOLM L. McBRIDE, *Chairman*;  
MRS. ALFRED A. BREWSTER,  
THOMAS COUGHLIN,  
RICHARD F. GRANT,  
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W. F. SNOW, M. D., *Director of the Venereal Disease Survey*;

LOUIS I. DUBLIN, Ph. D., *Director of the Vital Statistics Survey*.

The expenses of the Survey and of the publication of the report have been met by appropriations received from the Community Chest, through the Welfare Federation, of which the Hospital Council is a member.

The report as a whole, or by sections, can be obtained from the Cleveland Hospital Council. A list of the parts will be found in the back of this volume, together with prices.



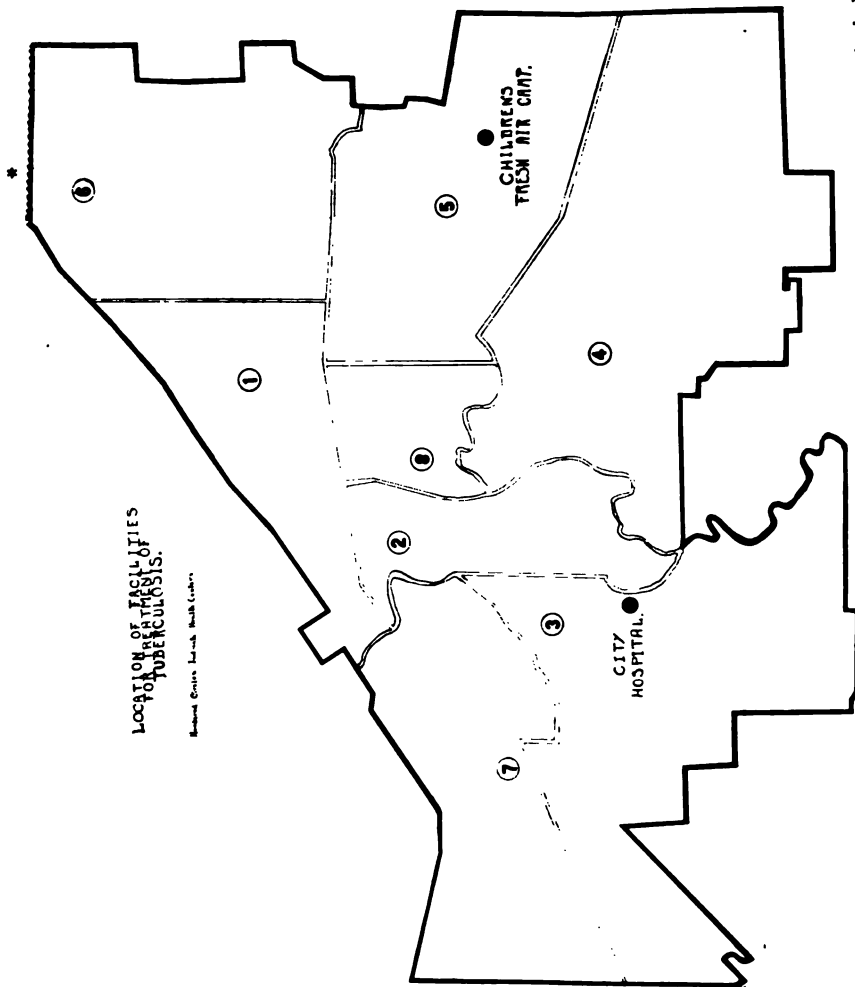
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# LOCATION OF FACILITIES FOR TREATMENT OF TUBERCULOSIS.

Boundaries for each health center



WARRENSVILLE  
TUBERCULOSIS SANITARIUM.

\*The narrow eastern end of District 6, extending along the lake shore, is not included in this map.

# Tuberculosis

BY DONALD B. ARMSTRONG, M. D.

## I.

### The Story in Brief

#### CLEVELAND'S EQUIPMENT FOR FIGHTING TUBERCULOSIS

**T**UBERCULOSIS is in large measure a preventable and curable disease, yet each year between ten and twelve hundred Cleveland citizens die from this cause alone. Nearly six thousand known cases are constantly afflicted with this disease, a social handicap and economic burden to themselves, their families and the city.

Cleveland has been, in comparison with other American cities, by no means backward in the development of machinery for defense against this "captain of the men of death." Public and private interests have provided:

1. A Bureau of Tuberculosis in the Division of Health (at present without a head).
2. Seven Division of Health tuberculosis clinics in the Health Centers, distributed throughout the city.
3. A staff of eighty or more general public health nurses in the Division of Health, devoting considerable time to finding and supervising tuberculosis patients.
4. Municipal and private institutions, providing approximately 500 beds for the care of early and advanced, childhood and adult, pulmonary and non-pulmonary cases of tuberculosis.
5. An Anti-Tuberculosis League, responsible for the initiation of many of the excellent anti-tuberculosis provisions in the past, and alive to its present obligations for educational and other activities aimed at the control of this disease.
6. A background of legislative provisions, a system of general sanitary and milk control, organization for infant welfare and school health work, for material relief, guidance, etc.—all important in the war on consumption, and all comparing favorably in theory and practice with those provided in the average American city.

#### PAST ACCOMPLISHMENTS

With this machinery for tuberculosis control, Cleveland's accomplishments are of no mean order. Their appraisal is of great significance, for if we are to estimate the potential possibilities of a community, we must know its "past performances." From this point of view the outlook is encouraging. Among the mileposts of progress in Cleveland's fight on the Great White Plague are:

1. A courageous pioneer development of a health center system, coupled with generalized nursing, an experiment and demonstration in social machinery for disease control of national value.
2. A gradual development of tuberculosis clinic attendance of thousands annually, totaling over sixty-one thousand patients for the period 1914-18.
3. The registration of 4.7 active tuberculosis cases in 1918 for every annual death, a ratio that compares favorably with the usual American municipal and state registration of 3 or 4 cases to a death.
4. The establishment of the Warrensville Sanatorium, most noteworthy among Cleveland's institutional provisions for tuberculosis, in many respects a model institution both in equipment and management.
5. An encouraging reduction, as observed in many other communities, of the annual tuberculosis death rate, a fall from 225 per hundred thousand of the population during 1865-69 to 145 per hundred thousand for the period 1913-17.

### IMMEDIATE NEEDS

In spite of these accomplishments, much remains to be done if the disease is to be reduced to a minimum—measures that do not await fresh discoveries in disease control, but that depend on the use of known and demonstrated means for tuberculosis elimination. If we measure Cleveland against ideal standards, it is because of our faith in the city's ability to approximate these standards:

#### ***TUBERCULOSIS IS A COMMUNICABLE, WIDESPREAD INFECTION, AN INFECTION THAT CAN BE REDUCED BY:***

##### ***Education in Personal Hygiene.***

Very little is being done in this direction at present in Cleveland, either to suppress disease transmission, as through the elimination of common utensils, or to increase general resistance, as through the promotion of more adequate milk consumption by children.

##### ***Control of Dangerous Infectious Cases.***

Cleveland has the legislation necessary for the segregation of such cases, but employs it rarely.

##### ***The Prevention of Dangerous Spitting.***

In 1917 there were 41 convictions for violation of the anti-spitting ordinance, in 1918 there were 7, in 1919 none, in 1920 none up to June 1st.

##### ***The Sanitation of Milk Supplies.***

Cleveland has a milk supply of fair quality, but reliance upon country milk inspection and upon pasteurization, instead of actually testing the bacteriological purity of the product as delivered to the consumer, has allowed a

false sense of security to develop. About half of the samples of bottle milk as delivered were found to be so heavily polluted as to be unsafe for use. The milk standards required by law are adequate but they are not consistently or constantly enforced.

#### ***Adequate Housing Conditions.***

Cleveland faces a serious housing problem, insistently demanding radical treatment if tuberculosis and other diseases are to be controlled. Housing conditions, tolerated by the public authorities in violation of every law of sanitary safety and building construction and maintenance, abound in the congested areas where the incidence and death rate from tuberculosis are the highest.

### ***TUBERCULOSIS IS A PREVALENT DISEASE, TO BE REDUCED IN ITS ACTIVE AND ADVANCED FORMS BY:***

#### ***The Reduction of Economic Strain.***

By the elimination, so far as may be possible, of excessive fatigue, long working hours, time lost through inadequate transportation facilities. By the provision of opportunities for healthful recreation for working people. By the development of facilities for purchase of food and clothing at minimum cost, through company or cooperative stores. By the training of girls in domestic economy and the art of buying and cooking food.

By the development of adequate industrial health services. Employers and employees must come to realize that their common interest in the health of industrial personnel can best be served through the institution of physical examinations under conditions mutually helpful.

There has been in Cleveland notable progress in the field of industrial hygiene, yet the amount of tuberculosis which has been found through the examination of employes or applicants for employment in the industries of Cleveland is negligible. It has been overlooked, either because examinations have been made too casually or because they have been made by physicians very ill equipped to examine for pulmonary disease.

#### ***The Detection of Early Cases.***

At present 50 per cent of the cases discovered are advanced. This should be reduced at least to 25 per cent through the training of clinic and general physicians in the detection of early signs of disease, and through the help of expert advisory consultation services for the diagnosis of difficult or doubtful cases.

At present Cleveland is registering about four and a half cases for every annual death. The ratio of active cases to deaths, if all were discovered, would probably be nine to one rather than four and a half to one.

#### ***More Adequate Provision for Institutional Treatment.***

Cleveland now has one hospital bed for tuberculosis patients for every two deaths from tuberculosis annually. The experience in New York,

Massachusetts, and elsewhere, indicates a minimum requirement of one bed for each death from tuberculosis per annum.

***More Adequate Nursing Provision for Home Cases.***

Cleveland now has one public health nurse for approximately every six thousand people. The minimum standard, for generalized public health nursing demands at least one nurse for every three thousand of the population, if tuberculosis is not to be neglected. By generalized public health nursing is meant the system by which only one nurse works in a given district, doing there all kinds of nursing and instruction in health.

***More Effective Institutional Treatment.***

At present 44 per cent of the male patients at Warrensville leave "unimproved." The potential effectiveness of the city's equipment will continue to be in great measure wasted unless this percentage is reduced through social and educational devices, more effective "follow-up," etc.

***Prompt Reporting Upon Diagnosis.***

At present from 20 to 30 per cent of the cases are not reported until death.

## RECOMMENDATIONS

To meet these deficiencies in the Cleveland tuberculosis program, symptomatic as indeed they are of conditions generally elsewhere, certain specific suggestions are presented. If ways can be found for their adoption it is confidently believed that Cleveland will soon deserve and receive universal appreciation as the city that fought tuberculosis to a finish.

### ***PREVENT MORE INFECTION***

1. By an educational campaign in the schools, by agents of the Division of Health, through the Anti-Tuberculosis League, on the dangers of infection, on personal hygiene, on food hygiene, and in health habits which may increase resistance, etc.
2. By improved sanitary practices, involving the suppression of spitting, the segregation of dangerous consumptives, an improvement in methods and equipment for living, including adequate housing to prevent inevitable infection through congestion.

### ***FIND MORE EARLY TUBERCULOSIS***

If tuberculosis is to be combated successfully, cases must be found early. In Cleveland, as elsewhere, the next step in tuberculosis is the first step; namely, find the undiscovered, early cases.

1. By educational methods, and where violation is persistent, by legal measures, stimulate compliance with city ordinance requiring the reporting of tuberculosis as soon as diagnosis is established.

2. By the establishment of an expert medical advisory, consultation service, on diagnosis and treatment, to operate through the Health Centers, under the auspices of the Division of Health, or the Anti-Tuberculosis League.
3. By providing post-graduate medical training, through the Medical School, or otherwise, for the training of clinic physicians and general practitioners in the detection of the incipient signs and symptoms of tuberculosis.
4. By providing a more adequate number of nurses to find suspicious cases and persuade them to come to doctors for diagnosis, twice as many nurses being needed for the staff of the Division of Health.

#### **MORE ADEQUATE TREATMENT**

1. By the provision of 500 additional beds for institutional cases, for advanced and early types, for adults and children, at the City Hospital and at Warrensville.
2. By improved methods of sanatorium and hospital treatment, encouraging the patients to persist in the treatment until arrested or cured, and following them up to insure proper social and economic adjustments to work and to life.
3. By providing more adequate home nursing care for tuberculosis patients.

#### **MORE COMPLETE ORGANIZATION**

1. A full-time chief in the Bureau of Tuberculosis, to aid and cooperate with other agencies in the further development of the Health Centers, the institutional program, the post-graduate training, the consultation service, the educational activities, etc.
2. The adequate financing and staffing of the Anti-Tuberculosis League for educational and possibly medical consulting work, involving an estimated annual budget of from twenty to thirty-five thousand dollars, depending upon the services undertaken.
3. An educational program in the schools and factories of Cleveland with especial emphasis upon the principles of nutrition and the value of annual periodic medical examination in preventing tuberculosis.



## II.

## Objects and Methods

THE carrying out of this special study in Cleveland has been a most agreeable task for numerous reasons. In the tuberculosis field, Cleveland has been, in many respects, a pioneer community. Having accomplished much in the past, it was legitimate for the community now to ask: "What is the next step in tuberculosis work in Cleveland?"

In the past, Cleveland, through its health and tuberculosis agencies, has admirably accepted the challenge to make Cleveland the national leader in tuberculosis work. Its past experience, coupled with a willingness to face its current and future problems with patience and courage, gives promise of exceptional accomplishments in the future.

In discussing the prospects of future developments in the Cleveland tuberculosis program with the health and civic leaders in the community, one is impressed favorably with the attitude quite generally maintained toward pressing local problems. The leaders seem to recognize current limitations in health and tuberculosis work. There is manifested an excellent spirit of cooperation and good will between local agencies. The heads of local movements are forward-looking and sympathetic to fresh suggestions.

The primary objects of the tuberculosis survey in Cleveland were as follows:

1. An analysis of "past history" as to tuberculosis, a study of its past incidence as to mortality and morbidity, an analysis of previous experience as to methods of control, etc.
2. A study of the present problem, its magnitude and relative significance as a disease factor in the life of the municipality.
3. An analysis of existing measures and equipment for meeting the problem.
4. A determination of the chief immediate needs and outstanding inadequacies in the present machinery for tuberculosis control.
5. An approximation of the more obvious and urgent recommendations growing out of such an appraisal.

The chief methods which have been employed in studying the tuberculosis situation in Cleveland were the following:

1. A statistical analysis of past and current morbidity and mortality experience, carried out essentially through the generous cooperation and assistance of the City Division of Health.
2. A study of Cleveland literature bearing on tuberculosis and allied subjects, such as housing, hospital and medical service, legislation, etc.
3. Visits to tuberculosis agencies and institutions, including hospitals, sanatoria, open-air schools, health centers, etc.

4. A special field study into the particular problem of milk consumption, with the cooperation of the Division of Health, the Associated Charities, and the Visiting Nurse Association.
5. A study of the results of other phases of the Hospital and Health Survey, such as the investigations of nursing, hospital and dispensary work, industrial hygiene, etc.
6. A study of the maps and reports developed in connection with other Cleveland surveys, both past and present, including recreation studies, housing studies, etc.
7. Conferences with:
  - (a) Investigators associated with the writer on the Hospital and Health Survey staff.
  - (b) Local leaders in health, tuberculosis, medical, social, educational, nursing and charitable activities.
8. The preparation of the report, with its presentation to special conferences, public meetings, etc.

## III.

## The Statistical Record of Tuberculosis in Cleveland

**A**N historical and statistical analysis is a prerequisite in the study of prevention and control of any disease. It is in the past records of the disease in so far as they are at all reliable and comparable with established standards, that one gathers an indication of the relative importance of the problem under consideration. In the following report an effort has been made to present the essential facts of past tuberculosis history. Every effort has been made in the development of the tuberculosis survey to adhere to those aspects of the problem which bear on practical considerations and which lead to tangible constructive suggestions.

Much of the detailed statistical material presented in the original manuscript report has been eliminated from the data prepared for publication. For much assistance and many valuable suggestions the writer is indebted to Dr. G. W. Moorehouse, the Chief of the Division of Communicable Disease of the Cleveland Division of Health.

### POPULATION AND GENERAL MORTALITY

#### General Death Rates.

The general death rates for Cleveland are given, as furnished by the Division of Health. (Rates corrected according to population estimates based on 1920 census returns.)

#### Cleveland Death Rates per Thousand Living

Year	Population as of July 1st	Rate
1910	564,066	14.3
1911	587,936	13.5
1912	611,806	13.4
1913	635,676	13.9
1914	659,546	12.5
1915	683,416	12.9
1916	707,286	14.1
1917	731,156	14.8
1918	755,026	17.3
1919	778,896	12.7

Since the preparation of this material the official report of the population of Cleveland has been published by the Bureau of Census, as of January, 1920. This credits Cleveland with a population of 796,836 individuals. It will be necessary for those who contemplate accurate statistical study of the incidence and death rates from tuberculosis in Cleveland and other American cities to base their estimates upon the arithmetical increase indicated by the difference between the 1910 and 1920 census reports.

*Leading Causes of Death.*

In endeavoring to secure figures for the leading causes of death in Cleveland, the last available year (1918) was ignored, because of the extreme conditions resulting from the influenza epidemic. The figures given are, therefore, for 1917.

It may be interesting to contrast Cleveland conditions with conditions prevailing in the State of Ohio. The leading causes of death for 1917 in the State of Ohio, as prepared by the State Department of Health, in contrast to Cleveland, are indicated below.

It will be observed that while tuberculosis occupies third place in the State figures, it rises to second place in the city.

*Leading Causes of Death—State of Ohio and Cleveland—1917.*

Cause	Rate per 100,000	
	State of Ohio	Cleveland
1. Organic diseases of heart.....	166.08	96.1
2. Pneumonia (all forms).....	148.46	196.
3. Tuberculosis (all forms).....	142.99	174.
4. Cancer and other malignant tumors.....	91.71	82.5
5. Bright's Disease.....	87.93	70.1
6. Diarrhea and enteritis (under 2 years).....	57.87	119.

*TUBERCULOSIS MORTALITY**Past History*

The past history of tuberculosis in Cleveland presents a picture similar to that of other sections of the United States. That there has been a general decline in the tuberculosis death rate and in the percentage mortality for tuberculosis is seen in the following figures taken from a study by Dr. G. E. Harmon, as published in the Cleveland Medical Journal for May, 1915.

*Tuberculosis Death Rates for Cleveland from 1865 to 1914*

Period	Death Rate per 100,000 for All	Per Cent Pulmonary Tuberculosis
	Forms of Tuberculosis	Deaths of Total Deaths
1865-1869	225	11.7
1870-1874	178	9.1
1875-1879	203	8.6
1880-1884	178	7.4
1885-1889	164	9.0
1890-1894	144	7.6
1895-1899	134	9.5
1900-1904	128	8.2
1905-1909	129	8.4
1910-1914	136	8.4

It is questionable, owing to inaccuracies in reporting, variation in certification, etc., whether the figures previous to 1880 are of any real significance. It will be noted, however, that while there has been a general decline in tuberculosis mortality in the last few decades, the more recent tendency since 1900 has been upward. This tendency will be borne out by figures to be presented subsequently with reference to the years since 1914. Apparently the efforts for tuberculosis control in the past have assisted the natural tendency toward the reduction in mortality. On the other hand, if this tendency is to be re-attained, fresh efforts, and perhaps new measures, will have to be found for the future. (See also chart on page 341.)

#### *Comparisons with Other Cities.*

For the period 1913 to 1917, inclusive, the relationship which Cleveland has borne to two cities comparable in size and in industrial make-up in the Great Lakes region is here shown.

#### *Death Rates from Tuberculosis, All Forms*

City	1913	1914	1915	1916	1917	Average
Buffalo.....	156.0	165.8	157.0	162.2	169.2	162.0
Detroit.....	116.0	121.8	135.6	163.9	159.9	139.4
Cleveland.....	131.7	136.3	132.6	152.7	174.0	145.4

It will be noted that in these cities there is a slight tendency for the rate to increase during this period of years. The average for Cleveland, however, compares favorably with that of the other two cities, particularly with Buffalo. The death rate for Cleveland for 1917, according to the Cleveland Division of Health, is 175 per 100,000, instead of 174. The figures in this table are taken from the Federal mortality statistics report.

The percentage of total tuberculosis deaths which are attributed to pulmonary tuberculosis in 1918, in ten of the leading cities of the United States, according to the local registrars, shows Cleveland's position in the series.

#### *Per Cent of Total Tuberculosis Deaths in 1918 Attributed to Pulmonary Tuberculosis*

Cincinnati.....	94
Philadelphia.....	90.2
Newark, N. J.....	90.1
St. Louis.....	89.7
Buffalo.....	87.3
New York.....	86.9
Boston.....	86.7
Cleveland.....	85.7
Detroit.....	84.7
Pittsburgh.....	82

The Cleveland death rate from tuberculosis (all forms) for 1918 showed a decided drop, being recorded as 147 per 100,000. This, however, is largely the reflection of the unusual estimated increase in population hitherto referred to, and the result of influenza which masked many deaths in tuberculous individuals, not recorded as tuberculosis.

## CLEVELAND DEATH RATES FROM PULMONARY DISEASE—1850 TO 1919

(Chart prepared by Dr G. W. Moorehouse)

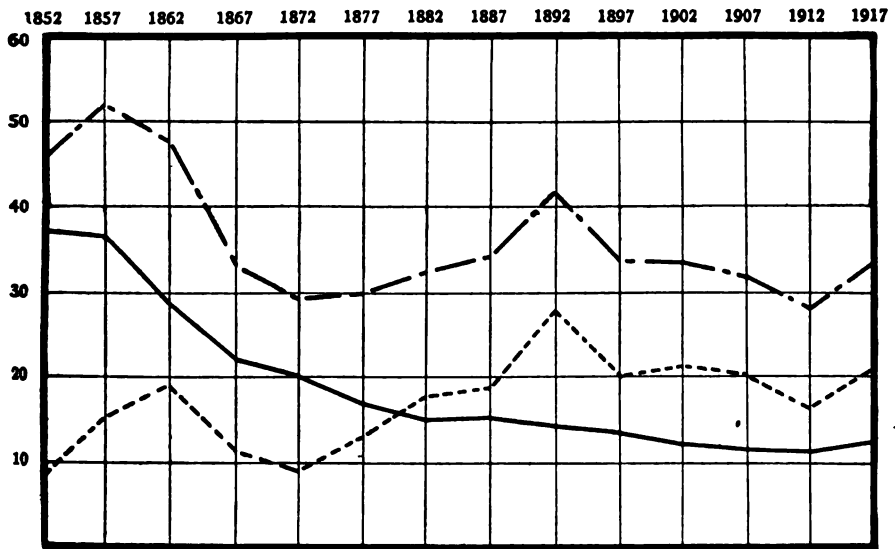
## PULMONARY TUBERCULOSIS AND NON-TUBERCULOUS PULMONARY DISEASES, CLEVELAND, OHIO—1850 TO 1919

Mortalities per 10,000, average of five-year periods.

Pulmonary tuberculosis: Solid line, ———

Non-tuberculous pulmonary diseases: Lower broken line, - - - - -

Pulmonary diseases, tuberculous and non-tuberculous: Upper broken line, — - - - -



1873—First Board of Health of Cleveland.

1882—Koch's discovery of the tubercle bacillus.

1901—City Bacteriological Laboratory opened. Disinfection after death from tuberculosis begun.

1904—Tuberculosis dispensary opened by the Anti-Tuberculosis League.

1905—International Classification of Causes of Death first used in Cleveland. Smallpox Hospital on City Hospital grounds renovated and opened as a sanatorium for tuberculosis.

1906—Tuberculosis dispensary started in City Hall. Open evenings. Discontinued after a few months. Tuberculosis made reportable.

1907—Tent colony opened by the Anti-Tuberculosis League. In 1915 this was moved to Warrensville and the expense of maintenance borne by the City.

1910—City took over tuberculosis dispensary which had been maintained by the Anti-Tuberculosis League and opened two other tuberculosis dispensaries.

1911, 13, 14, 15—Additional dispensaries were opened.

1913—New sanatorium at Warrensville opened.

1914—Day camp in operation during the summer. Operated one or two years and then discontinued.

1915—Compulsory pasteurization of all (except Grade A) milk used in the city.

### *Tuberculosis Deaths by Age.*

The distribution of tuberculosis deaths by certain age groups for the period 1913 to 1918, inclusive, is presented in Table I. (Appendix).

As usual, it is seen that the non-pulmonary deaths are high under five years of age. The total deaths under five constitute 7.3 per cent of all the tuberculosis deaths for the period. It will also be noted that the deaths for the age periods 20-39 total just 50 per cent of all the deaths from tuberculosis. This reflects the high mortality in the industrial age period, and also reflects the large male industrial population.

From this table it may also be seen that the non-pulmonary deaths constitute 13.6 per cent of the total deaths.

The tuberculosis death rates by estimated population for age groups are shown in Table II. (Appendix).

### *Tuberculosis Deaths by Sex.*

The distribution of tuberculosis deaths by sex is indicated in Table III. (Appendix).

From this table it will be seen that the deaths among males constitute 64 per cent of the total. This high male tuberculosis mortality is to be considered in connection with the high percentage mortality for the industrial age groups (50 per cent) as pointed out in the discussion of Table I.

### *Occupation.*

Through the cooperation of the Division of Health the distribution of tuberculosis deaths by occupations was obtained for the period 1914 to 1918. It is perhaps not worth while to present all of these figures, but in Table IV. there is given the total number of deaths by occupation for these five years, according to the 18 leading occupations of those dying of tuberculosis.

The prominence of "housework" is a typical finding and seems to indicate not so much the hazardous nature of housework as the fact that the majority of tuberculosis patients among women are not found in industry, but, by the time they become active, do gravitate to the home, and are consequently recorded as being "at home" or "housewives," or as doing housework.

Important evidence has been recently collected and published by Dr. George M. Kober in United States Public Health Reports (March 26, 1920, Vol. 35, No. 13), showing increasing damage properly attributable to occupations as a contributing factor in pulmonary tuberculosis, as well as the substantial results which have been obtained in reducing tuberculosis where dusts and other air pollutions have been controlled or reduced in a variety of trades. Such studies as are here reported by Dr. Kober must be undertaken in Cleveland if the true nature and extent of industrial hazards, as accessory causes of tuberculous diseases among the operatives in metal and textile trades and in mercantile establishments, are to be appreciated and removed. The relationship of the pollution of the air of the city by coal dust, ash and trade wastes, permitted to escape from chimneys without any pretense at effective restriction, is well worth studying, district by district.

### *Form.*

The percentage of non-pulmonary deaths (Table V., Appendix) is a fairly satisfactory showing, though with a concentration upon the detection of early disease and upon the

stimulation of tuberculosis reporting, and upon the encouragement of greater reliability in death certification, it is probable that this percentage would be increased.

#### *Residence.*

As previously stated, the figures for tuberculosis deaths and mortality rates for Cleveland do not include deaths among Cleveland residents at Warrensville Tuberculosis Sanatorium. On the other hand, they do include deaths among non-residents in Cleveland. It would, of course, be more logical to exclude non-residents and to include Warrensville deaths, but the practice has not been carried out in the past.

As a matter of fact, however, an analysis of the reports of deaths in 1918 and 1919 indicates that these two factors approximately balance.

For 1918 the non-residents dying in Cleveland (residence less than one year) were 42. For 1919 this number was 38. On the other hand, for 1918 it was estimated by the Division of Health that the residents dying out of town number 46. The actual difference would make only a slight modification in the tuberculosis rate.

### **TUBERCULOSIS MORBIDITY**

#### *Reporting.*

During the study in Cleveland, physicians and others frequently expressed the opinion that the reporting of tuberculosis, as well as of births, was incomplete. This is, of course, more or less reflected in the ratio of reported cases to deaths, which will be touched upon shortly.

As will be described in more detail later, the ratio of active cases to annual deaths in Cleveland is running about 4.7 to one. In Framingham, Mass., this ratio for active cases during the most intensive year (November, 1917, to November, 1918) of the work, was increased to approximately nine to one—115 cases to 13 deaths. It is stated by the Division of Health that 20 to 30 per cent of the tuberculosis deaths are not reported as cases before death.

	1918	1919	1920 (4 mos.)
Deaths from pulmonary tuberculosis .....	1020	841	260
Not reported as pulmonary tuberculosis before death	285	190	61
Per cent of unreported cases .....	27.9%	22.5%	23.5%

In Framingham, Mass., this percentage runs about 6.

On the other hand, this is comparing the Cleveland conditions with experimental and more or less ideal conditions. The ratio of 4.7 to 1 for cases and deaths is a better ratio than will be found in many, if not most, other American cities.

#### *Case Classification.*

While the method of case classification at the health centers and at the Division of Health has been worked out on a good practical routine basis, it is, as would be the case in most communities, not wholly satisfactory. A modified method of case bookkeeping, based on a somewhat altered system of case classification, has been suggested in some detail to the department officials. Such a system as has been proposed, if carried out in



each health district, supplemented by monthly summaries to the central office, would have a great many advantages. It would help to visualize the situation as it runs in the health districts from month to month. It would facilitate a summarization of cases according to classification groups at any time. It would encourage the more persistent follow-up of arrested cases and suspicious cases.

#### *Health Center Attendance.*

The details as to actual attendance at the health centers for a period of years are indicated in Table VI. (Appendix).

The totals for these years indicate a decided falling off in attendance, the total dropping from 14,753 in 1915 to 10,765 in 1918. This has been a common experience elsewhere.

#### *New Cases at the Health Centers.*

The total number of new cases at the health centers is indicated in Table VII. (Appendix).

Here again will be found a falling off in new cases, the total for 1915 being 3,416, and that for 1918 being 2,482. This falling off of new cases in dispensaries and health centers is not unique in Cleveland, but is characteristic of other cities. In New York, for instance, there were 4,010 fewer cases on the records in 1918 than in 1917. This has been ascribed to a number of reasons, including the following:

1. The fact that during part of the period a very large percentage of the male population in the most susceptible age group had been drafted into the army.
2. The hold which the war industries have had upon the working population, and the unwillingness on the part of anyone to forego the high wages unless absolutely compelled to do so by prostrating illness.
3. The falling off of immigration.
4. The general let-down in anti-tuberculosis educational work.
5. The fact that the influenza epidemic may have killed off a large percentage of the individuals who might subsequently have been reported as tuberculous cases.

#### *Active Cases.*

The grand total of cases for all of the health districts was 5,565, while the actual active cases on record at each of the health districts were as follows:

District	No. of Cases
1	697
2 and 8	1157
3	464
4	430
5	1092
6	859
7	886

***Ratio of Active Cases to Deaths.***

The ratio of active cases to deaths for all the districts combined is 4.7 to 1. The total number of deaths for 1918 is 1,190. This includes 1,073 cases distributed by health districts, and 117 deaths of residents out of town, or of non-residents in town.

***New Tuberculosis Cases Reported in 1919.***

The total number of pulmonary tuberculosis cases reported in 1919 was 1,442. For the entire city the ratio of newly reported cases to deaths is 1.2 to 1.

***The Stage of the Disease as Reported.***

The stage of the disease as reported is not only a measure of the accuracy of reporting, but also indicates the relative efficiency of the medical profession in the early detection of the disease.

Through the help of the Division of Health it was possible to make two separate tests in reference to the stage of reporting. Five hundred cases were classified according to stage as reported at health centers 2 and 5. Here it was found that of the total number of cases reported 43.6 per cent were classified as early cases.

Again, at the Division of Health a group of 500 were classified according to the stage in which they were reported by the physicians. These were cases which came in independent of the health centers. In this group 51 per cent were reported in the first stage. In contrast to these two percentages for the health centers and for the Division of Health of 43.6 and 51, respectively, it may be stated that in Framingham, Massachusetts, where a special effort has been made to encourage reporting, the percentage for the last three years has averaged 74.

It is evident that something could be done in Cleveland to improve upon this factor. The discovery of the disease in its early stages, in order that treatment may be applied when most effective, is of vital importance in the control of the disease.

## IV.

## General Provisions for Attack and Defense Against Tuberculosis

**T**HE machinery which a community constructs for its defense against disease is of two main types: first, certain general measures, such as education, legislation, general sanitation, nutrition, etc.; and, second, certain specific devices, such as institutions or clinics for the special care of the particular disease under consideration. The present chapter will be devoted to a brief review of the Cleveland equipment for meeting the tuberculosis problem, from the more general point of view.

### EDUCATION

There cannot be said at present to be any organized attempt in schools or for the public to carry on systematic education in the nature, cause and prevention of tuberculosis.

### LEGISLATION

#### *For the Direct Control of Tuberculosis.*

Cleveland is well equipped with measures for tuberculosis control. The more important legislation may be summarized as follows:

1. Provision for the disinfection of premises (1901).
2. The prohibition of spitting (1905).
3. Tuberculosis a reportable disease (1907).
4. Provision made for compulsory removal and detention of dangerous tuberculosis cases—practical segregation (1910).
5. Prohibition of the employment of any person suffering from tuberculosis in a school (1914), and the prohibition of the employment of any tuberculous individual in a food handling establishment (1914).
6. Legislation against common drinking cups (1919).

#### *With Reference to Milk.*

City ordinance, No. 34648-A makes adequate provision for the control of the milk supply of the city of Cleveland. This ordinance includes measures prohibiting the sale of dipped milk; requiring that all certified milk be obtained from tuberculin tested and negatively reacting cattle, from regularly inspected plants, handled by medically inspected employees; that all milk be sold according to specified grades; that all uncertified milk be pasteurized; that all pasteurization be according to the holding process for definite temperatures, etc.

#### *Housing.*

In Cleveland, houses while under construction are under the supervision of the Division of Buildings of the Department of Public Service. When occupied, so far as general control is concerned, they are under the Bureau of Sanitation of the Division of Health.

Legislation has been provided, along the lines of the regulation housing code, known as ordinance No. 32186-A, which apparently makes adequate provision for hygienic equipment and control. Certain sections of this code cover specific matters of direct importance to personal hygiene and home living methods, including water supply, water closets, general cleanliness, etc. It was not possible to make an exhaustive comparative analysis of housing legislation in Cleveland, but a cursory study of the provisions would seem to indicate that the legislation is reasonably adequate. The question as to its actual enforcement will be discussed later.

### GENERAL SANITATION

It has been pointed out that the community is well equipped as regards sanitary legislation. How adequately is that legislation enforced? This question cannot be answered from the point of view of minute details of general sanitary provisions. It has been considered only in its more important aspects.

#### *The Milk Problem.*

Through the cooperation of the Division of Health and the Cleveland Consumers' League, fairly definite answers were secured to specific questions with reference to the milk situation in Cleveland.

The Consumers' League investigators reported:

1. That the estimated total milk consumption in Cleveland was 60,000 gallons per day. (80,000 including milk used for ice cream.)
2. That one concern, the Telling-Belle-Vernon Company, handles about 40 per cent of this entire supply.
3. That practically all of the milk, except the certified, is pasteurized, the amount pasteurized approximating 98 per cent of the total supply.
4. That about 300 gallons per day is certified, or approximately .37 per cent of the total.

The bacterial content of this certified milk is kept below 10,000.

5. This would leave about 2 per cent of the supply in the unpasteurized class. The bacterial content of this milk is limited by legislation at 50,000, but was said to be running at 15,000 in the winter months. All of this raw milk comes from tuberculin tested cattle, the tests being made once a year.
6. Pasteurization is by the holding process, at 145° F. for 30 minutes.
7. At the present time about 10 per cent of the total milk supply is said to be sold at retail as dipped milk.

From control observations made by bacterial counts of milk samples taken in the open market, as delivered to the consumer in March and June, it is apparent that although the inspection service appears to be thorough and conscientious, not more than half the milk sold complies with the legal sanitary standards of bacterial purity.

### *Milk Consumption—Its Dietary and Nutritional Aspects.*

Tuberculosis usually results from the inter-play of a number of factors. These may be environmental, such as bad housing, unsanitary surroundings, low wages, etc.; individual or race habit, such as the prevalence or absence of maternal nursing, adequate or inadequate food habits, etc.; and finally, race stock.

There is no doubt that nutrition, related as it is to race habits, economic status and general education is of basic importance in the incidence of disease and perhaps particularly of tuberculosis. Just how important nutrition is in tuberculosis we do not yet know. Possibly certain studies now being planned will throw light on this problem.

So far as the Cleveland situation is concerned, it has seemed worth while to make a modest, though intensive, effort to study some factors of the most important single food consumption problem; namely, the question of milk. This problem is of importance not only to children, but to adults as well.

A somewhat similar study carried out recently in Framingham, Mass., indicated that 69 representative families, with 173 adults and 261 children, were taking 92 quarts of milk a day. Now if each child under 2 requires a quart of milk, and if each family should use in addition at least a pint per capita for the fundamental cooking necessities for proper diet for adults, it is evident that this group should have been consuming between two and three times as much milk per day as they did.

In Cleveland, with the help of the Division of Health Nursing Bureau, the Visiting Nurse Association and the Associated Charities, an effort has been made to make a somewhat similar analysis of the situation in a thousand families.

The results from this study may be presented in the following way:

#### *1. Agencies for Families Covered.*

Division of Health.....	536 families
Associated Charities.....	310 "
Visiting Nurse Association.....	154 "
	<hr/>
	1000 families

#### *2. Distribution of Families by Health Districts.*

District 1.....	15.6 <sup>9</sup> per cent
District 2.....	6.9 " "
District 3.....	18.9 " "
District 4.....	10.9 " "
District 5.....	12. " "
District 6.....	21. " "
District 7.....	9.3 " "
District 8.....	2.2 " "
Outside or not stated.....	3.2 " "
	<hr/>
	100 per cent

It is evident from this table that these families were fairly generally distributed over all parts of Cleveland.

#### *A Census of the Group Covered.*

Of the 1000 families, 117, or 11.7 per cent, were taking lodgers.

A distribution of the population by age groups in these families was as follows:

Adults (adults and relatives over 14).....	2221
Children (6 to 14).....	1541
Children (under 6).....	1534
Lodgers.....	217
	<hr/>
	5513

From the foregoing it will be observed that the census of the families, excluding lodgers, totaled 5296. The total number of children under 14 was 3075.

The number of children per family was 3.1. The number of individuals per family (without lodgers) was 5.3. The number of individuals per household (including lodgers) was 5.5.

#### *4. Relief and Non-Relief Families.*

Families receiving relief.....	42.7 per cent
Families not receiving relief.....	57.3 " "
	<hr/>
	100 " "

#### *5. Kinds of Relief.*

The kinds of relief being received by the 42.7 per cent of the entire group of families may be stated as follows: money, 9.6 per cent; food, 21.2 per cent; clothing, 13.6 per cent; medical care, 24.9 per cent; not stated, 2.6 per cent. These percentages do not of course total 100 in view of the fact that the percentages were calculated on the basis of the entire group. Further, many of the families were receiving two or more kinds of relief.

#### *Sickness Prevalence.*

While it was realized that the group being covered was in no sense typical of the population as a whole, it was thought worth while to take, in an informal way, a sickness census of the families reached by the study. The illnesses recorded were classified according to the headings indicated in Table VIII. (See Appendix).

This is of course an atypical group, and is not to be compared with other standard sickness censuses. It will be remembered that the Metropolitan sickness surveys have shown a prevalence of illness ranging from 1.5 to 2.5 per cent. These percentages apply to incapacitating illnesses. The sickness census in Framingham, including minor illnesses as well as major affections, showed a percentage sick of 6.2 per cent. This special study of Cleveland of a group being covered by nurses and relief workers, for a number of causes, including medical as well as nursing needs, showed the percentage ill, for adults and children combined, 12.7 per cent. For adults the percentage was 16.16 and for children 10.14.

A special tabulation has also been made of the prevalence in the group not only of active tuberculosis, but of suspected tuberculosis, and of individuals exposed to tuberculosis. The results are presented in Table IX. (Appendix).

From Table IX. it will be observed that, for adults and children combined, the number being recorded as actively tuberculous constitute 2.11 per cent of the entire group. This again reflects the fact that the group is not a typical group. A typical cross section of such a community as Cleveland if actually medically examined would show the presence of approximately one per cent actively tuberculous, according to Framingham experience and standards. It will be observed that for the group as a whole, including adults and children, 3.5 per cent were classified as being either actively tuberculous or showing suspicious signs or as having been exposed to the disease.

#### **7. The Number of Families Taking Milk.**

The number of families in the group actually taking milk and the way in which milk was received is shown in Table X. (Appendix).

Owing to a duplication in this table it is impossible of course to have percentages or numbers total. It will be observed, however, that 77.9 per cent of the families were receiving milk in bottles. The percentage of families in which milk was bought in whole or in part by bulk was 3 per cent. It will be remembered that previously it was stated that approximately 10 per cent of the milk in Cleveland was being sold as dipped milk. From these two observations it appears probable that some of this dipped milk is not being distributed through ordinary family channels.

#### **8. Home Refrigeration.**

In answer to the question as to whether or not the milk was kept cold, the questionnaires answered this inquiry in the affirmative in 76.5 per cent of the cases, in the negative in 6.5 per cent, and failed to answer in 17 per cent. It will be remembered that this survey took place during the winter season.

#### **9. Was the Milk Kept Covered at Home?**

The families were classified as follows under these headings: yes, 80 per cent; no, 4.6 per cent; not stated, 15.4 per cent.

It would appear from these inquiries that, so far as this season of the year is concerned at least, the home methods as regards milk handling are above average in Cleveland.

#### **10. The Daily Amount of Milk Consumed.**

This of course is a point of vital importance. How much milk were these families consuming, and how does their total milk consumption and average milk consumption compare with the theoretically desirable use of milk for such a group of the Cleveland population? Apparently the sanitary aspects of the milk situation are passable. How about the nutritional and dietary sides of the problem?

The approximate amount of milk consumed as recorded, in the group, will be shown in Table XI. (Appendix). Milk purchased in canned form is relatively only a small fraction of the total, and has been eliminated from this tabulation. Consequently, the sum of the families does not equal 1000.

From this table it will be observed that the 920 families were taking 1480 quarts of milk a day, or 1.61 quarts per family. How does this compare with the normal needs of this group?

The 920 families contained 2852 children. On the basis of one quart per child per day this would mean, for the children alone, 2852 quarts. If there is added to this one pint for the general family needs, or 460 quarts, the total requirements of the group are 3312 quarts daily. Consequently, the families were securing only 44 per cent of the amount of milk necessary or at least desirable to meet their nutritional needs.

To put the matter in another way, as there were 3.1 children per family the quarts per day necessary for the average family would be 3.6 quarts. This need is to be contrasted with the actual consumption of 1.61 quarts per day.

#### *Milk Consumption by Relief and Non-Relief Families.*

With reference to milk consumption in bottle or bulk only, the amount purchased by relief families is shown in Table XII. (Appendix).

From this table it will be observed that each family was securing 1.67 quarts per day. The 390 relief families theoretically totaled 1209 children (on the basis of 3.1 children per family), and if to this is added one-half quart for each family, the total need of the relief families would be represented by 1404 quarts daily. The amount of milk consumed, 654 quarts, represents 46 per cent of this theoretical need.

The situation as discovered in non-relief families is indicated in Table XIII. (Appendix).

The non-relief families were receiving on an average of 1.58 quarts per family, or a little less than the relief families (1.67). The 530 non-relief families would total 1643 children, and would require, with a half quart for additional family needs, a total of 1908 quarts per day. The actual amount consumed, or 839.25 quarts, represents 43 per cent of this theoretical need.

Evidently the families not receiving relief are receiving less milk than the relief families, which probably reflects the effect of relief measures and possibly of the educational work being done in the families in contact with relief workers.

In justification of the amount of time in the investigation and the amount of space in the report, devoted to an analysis of the consumption of milk in Cleveland, it is well to recall the extent to which milk is recognized as the foundation of nutrition, especially in children, as is indicated in the following quotations from Public Health Reports (Vol. 35, No. 17, April 23, '20, p. 994-6).

"Our present knowledge of nutrition justifies more fully than ever before the statement that the dietary should be built around bread and milk, bread or other grain products being the foods which furnish the most nutriment for their cost (whether in money or in land and labor), and milk being by far the most efficient nutritional supplement to bread or other grain products. Therefore, somewhat more of our grain crops than is the case at present should come directly into human consumption to augment the bread supply; and of the grain fed to cattle more should be used for the production of milk and less for the production of meat.



"In general, ten pounds of grain may be expected to produce not over one pound of meat or about three quarts of milk. If the three quarts of milk cost the consumer more (because of greater labor cost in production), they are also certainly worth more to him. In so far as things as different in their nutritional properties as meat and milk can be compared, it is fair to say that one quart of milk is at least as great an asset in the family dietary as one pound of meat. The per capita consumption of meat in the United States is so high that it might be reduced by one-third, or even one-half, with little or no nutritional loss, while a corresponding increase in milk consumption would certainly constitute a great improvement in the average American dietary. We are confident that a moderate shifting of emphasis from meat to milk will help in the normal evolution of American agriculture and improve the food economy and public health of the American people.

"Considering the whole length of life of the animal, Prof. Wood, the leading English agricultural expert, estimates that the cow returns in milk, veal and beef one-twelfth as much food as she has consumed, while the beef steer returns only one sixty-fourth. In other words, the cow is five times as efficient as the beef steer as a food producer when the whole life cycle of the animal is considered. Similarly it has been estimated by Cooper and Spillman (Farmers' Bulletin, No. 877, 1917, U. S. Dept. of Agriculture) that the crops grown on a given area may be expected to yield from four to five times as much protein and energy for human consumption when fed to dairy cows as when used for beef production.

"Quite recently Dr. Armsby has pointed out (Yale Review, January, 1920) that 'the dairy cow shows the highest efficiency of any domestic animal, both as regards conversion of food and availability of the product for men.'"

From studies recently made by the Children's Bureau of the United States Department of Labor in three representative American cities it appears that the insufficiency of the milk supply and of the use of milk by children is widespread and that Cleveland shows no important difference in this respect from Baltimore, Washington and New Orleans.

The Consumers' League of Ohio has been so convinced of the necessity of educational propaganda to increase the use of milk in the homes of Cleveland that it proposes to undertake the following program in the field of public education during the summer of 1920:

1. Milk stations will be installed at five settlement houses, Woman's City Club Food Shop and public parks (if possible). These organizations appear ready to cooperate.
2. Milk will be sold to cover its own cost.
3. Educational material, posters and printed matter will be furnished by the Consumers' League. Dispensers and helpers will be furnished by the Settlements. Containers and some other equipment will be furnished by milk companies. Ice, paper cups and straws are to be paid for (it is hoped) by the Federation through funds to be advanced to each station.

### ***Housing Problem.***

As stated under the discussion on Legislation, the housing regulations are representative and reasonably complete. Further, no effort was made in this tuberculosis survey to conduct a field study of living conditions. On the other hand, it so happens that a very recent study, made by the Committee on Housing and Sanitation of the Cleveland Chamber of Commerce, published in October, 1918, covered many of the important considerations in the relationship which housing bears to disease. This is a report which has been compiled with some care and is recent enough to be considered representative of current conditions. Consequently, certain of the facts presented in the Chamber of Commerce report will be reproduced here.

This study was comprehensive in character, covering about 80,000 people or approximately one-tenth of the population. It included the collection of data by factory questionnaires, a lodging house survey, and primarily a house-to-house canvass covering 6,292 houses, 14,688 families, and 69,894 individuals.

The reader whose interest lies in this direction should consult the original report. The facts are in entire agreement with the conclusions arrived at and quote from the report as follows:

**"First:** The type of industrial housing in Cleveland is not as high as the standard set by the Government for industrial war workers and not as high as we had heretofore believed the Cleveland standard to be. The standard of property maintenance, both as to repair and cleanliness, is not good, and sanitary equipment is inadequate and much of it is of antiquated type. There is unnecessary lot overcrowding, the median percentage of lot occupied being seventy-seven per cent, and the result is high fire hazard.

**"Second:** There is a rapidly increasing tendency on the part of our industrial workers to live in tenements, 27.1 per cent or more than one-fourth of them living in tenements or under tenement conditions. There is also distinct room overcrowding, 50 per cent of the families having less than one room per person. Tenement conditions and overcrowding are two housing evils that a city which has every possibility of expansion, both in territory and in transportation facilities, might and should avoid.

**"Third:** Rents are not high in terms of percentage of earnings spent in rent, but high in terms of value received as so many of the houses and suites within the range of price that workmen can afford are old and in a poor state of repair and sanitation."

With reference to the housing situation, a conference was held with Mr. Robert Whitten, Director of the City Plan Commission. Mr. Whitten stated that the Building Department records for the last five years (1915 to 1919, inclusive) showed the following percentages for new construction:

Tenement houses.....	25 per cent
Two-family houses.....	51 per cent
One-family houses.....	24 per cent

The evidence in this and in other cities, here and abroad, tends to prove the value in prevention of tuberculosis of the single or two-family house as

compared with tenement blocks or especially with remodeled houses made to serve the needs of a number of families and their lodgers. It is from the latter type of adapted residences that Cleveland suffers, particularly in its congested Negro and Italian sections.

***General Cleanliness.***

As stated previously, no special studies of general sanitation were attempted. So far as the tuberculosis is concerned, Cleveland has adequate legislative machinery. This applies to milk control, specific tuberculosis prevention, housing, etc. From the point of view of milk, the practice is fair. From the point of view of housing, it is woefully inadequate. It is important to see how effective may be the administration of sanitary legislation along other lines.

As regards an item of vital importance in anti-tuberculosis work, namely, the enforcement of the anti-spitting ordinance, a little information is available. In 1917 there were 41 convictions for violation of the anti-spitting ordinance. In 1918 there were seven convictions, and in 1919 there were no convictions, and there have been none in the first six months of 1920. This would seem to indicate indifference to the enforcement of this measure. It is hoped that this may not be justified as an index of cleanliness and sanitation along other lines, such as food handling, dust control, fly suppression, the elimination of common utensils, etc. For further information on the general compliance with sanitary requirements the reader is referred to the description of the Division of Health in Part II.

## V.

**Special Provisions for Fighting Tuberculosis**

The particular resources employed in Cleveland may be discussed under the following headings:

**THE DIVISION OF HEALTH**

This Division is a section of the Department of Public Welfare, and is composed of a number of Bureaus, many of which touch the tuberculosis problem. These Bureaus may be briefly described and discussed as follows:

***THE BUREAU OF TUBERCULOSIS***

This bureau is at present without a head, though a considerable proportion of the time and interest of the Health Commissioner is devoted to its interests. Related to this bureau, though not functionally a part of it, are the seven health centers under the direction of the Division of Health. So far as tuberculosis work is concerned, the activities of the bureau quite largely clear through these outposts. The health centers are distributed fairly uniformly throughout the city, and each center is in charge of a supervising nurse. A part-time physician is engaged in connection with each center, being present at clinic hours. In three of these centers also there are dental clinics, and attached to each center are a number of nurses who work from the stations as a center.

On the whole, the work of these centers seems to be worthy of high commendation. While developed somewhat rapidly and perhaps a little haphazardly, without much reference to other social and relief activities in Cleveland, they do meet many of the health needs of the community.

Each station holds five tuberculosis clinic sessions weekly, one session being at night. With increased personnel, both as to clinic attendants and field nurses, the need for a more frequent use of the clinic facilities would probably develop. It is apparently difficult under the present arrangement to secure enthusiastic and specially trained physicians for tuberculosis work in the clinics. The men are for the most part young physicians who have had no special training for their work. The work is part-time and receives only part of their interest and enthusiasm.

The inadequate facilities with the resulting insufficient uses of dispensaries for diagnostic and therapeutic services in tuberculosis in Cleveland is indicated by comparing the hours of special tuberculosis clinic service given per thousand of the population in Cleveland with service of a similar nature offered in seven other of the large cities of the country.

In 1920, basing the service per 100,000 upon the population figures recently issued officially by the Census Bureau as of January, 1920, there were provided for the citizens of:

Tuberculosis Clinic Hours of Service per Week per 100,000 of population	
Boston.....	20 hours
Philadelphia.....	13 "
New York.....	10 "
Cincinnati.....	10 "
St. Louis.....	9 "
Cleveland.....	8 "
Buffalo.....	6 "
Detroit.....	5 "

Under the Bureau of Tuberculosis there is an institutional case clerk who places, by whatever means necessary, cases recommended for institutional care. All cases admitted to Warrensville are admitted through the Bureau of Tuberculosis, and unless a permit is issued by the Bureau cases are refused admission. Before a case is sent to City Hospital arrangements are made with the hospital and a permit issued.

### THE BUREAU OF NURSING

At the present time there are approximately 80 nurses (including supervisors) in the Division of Health, distributed among the health centers. They are doing generalised public health nursing, and are looking after tuberculosis work, prenatal work to a slight extent, well-baby work, pre-school work to a slight degree, parochial school work, communicable diseases, boarding homes inspection, trachoma, ophthalmia, etc.

A visit to the health centers, and particularly to the teaching center, convinced the writer that generalized nursing has many advantages. From the point of view of the effectiveness of the nursing work as it touches the tuberculosis problem, a special appraisal was made by the other members of the survey staff, particularly concerned with a study of nursing service. These survey investigators were requested to comment upon the effectiveness of tuberculosis nursing from the following points of view:

1. The efficiency of bedside care.
2. The interest and efficiency of the nurses in finding new tuberculosis cases, in urging the families to come to the clinics for examination, etc.
3. The efficiency of educational work along the lines of home hygiene and personal hygiene.
4. The adequacy of relief measures.

For the general comments on the nursing situation the reader is referred to the report on the nursing work, Part IX. With special reference to tuberculosis, the investigators stated that active cases were not visited with sufficient frequency (once a month or less often); that arrested cases, suspects, and contacts were seen only once in two to six months; that the individual nurses have too many cases and too large a territory to cover; that the pressure is too great to permit of much activity on the part of the nurse in the direction of finding new cases. The home work is said to be excellent from the point of view of securing cooperation from physicians and others, though not so good in giving specific

instructions to patients. A set of rules to cover this aspect of the work is recommended by the nursing investigators, together with more expert supervision of the field work.

While some public health representatives in Cleveland seem to feel that tuberculosis work has suffered of late, with the development of the generalized nursing system, on the other hand the general consensus of opinion seems to be that the method provides many advantages to offset its few defects, even from the tuberculosis point of view.

It is true that the clinic attendance has fallen off and the number of new cases annually discovered has decreased concomitant with the development of the generalized system. However, this falling off in clinic attendance in the past two years has been experienced widely throughout the country and presumably does not reflect the results of the nursing method alone.

#### ***THE BUREAU OF STATISTICS***

The Bureau of Statistics provides a very indifferent service. It has no full-time chief, and the methods of developing statistical data seem to be informal and haphazard. No effort is made in tuberculosis mortality to eliminate non-resident deaths and to include resident deaths dying out of town. This is a practice which ought to be instituted.

#### ***THE BUREAU OF FOOD AND DAIRY INSPECTION***

This Bureau has the responsibility of inspecting food establishments, food handlers, milk control, etc. No special opportunity was afforded for the determination of the effectiveness of this work.

#### ***THE BUREAU OF SANITATION***

The Bureau of Sanitation has on its staff a number of sanitary officers who are responsible for the suppression of nuisances, for housing inspection, etc. The work of this bureau might with advantage be further developed and the standards of sanitary supervision raised.

#### ***THE BUREAU OF LABORATORIES***

The Bureau of Laboratories has charge of the inspection of food handlers for communicable diseases, sputum examinations, etc.

### **INSTITUTIONAL PROVISION**

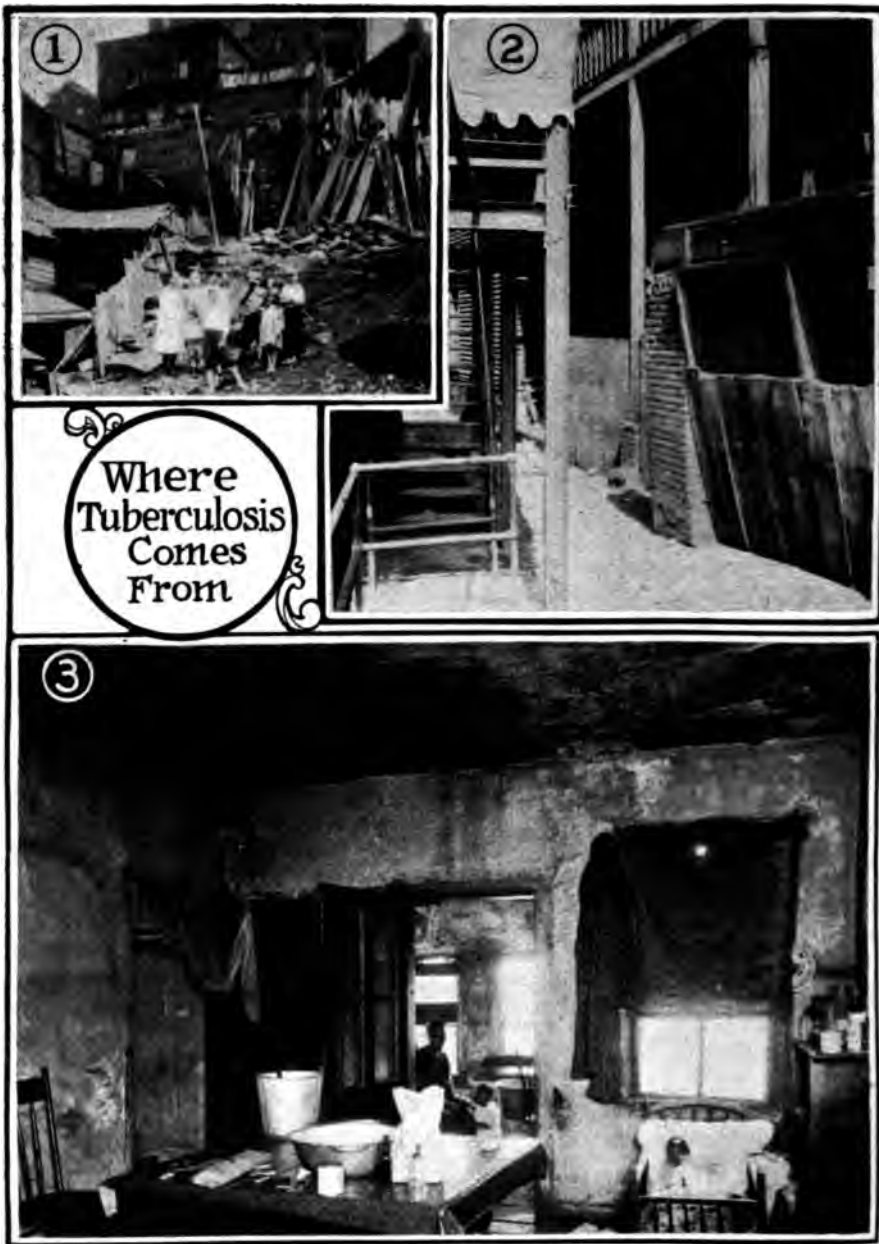
The special provisions made for the institutional care of tuberculosis patients in Cleveland are as follows:

#### ***FOR PULMONARY TUBERCULOSIS***

##### ***The Warrensville Sanatorium.***

This is a city institution about twelve miles from the heart of Cleveland, very attractively located on the highest point of land in the county. The equipment makes a very pleasing first impression, which is well sustained by further contact. The general management of the institution, including the records, etc., seems first class.

The equipment includes an excellent laboratory, an X-Ray plant, facilities for pneumothorax operations, a nose, throat, ear and eye room, dental equipment with full-time resident dentist, etc. There are four or five physicians on the staff, the physician in charge being a graduate of Western Reserve University, and of the special course at Tru-



1. Only available playground space in an overcrowded district.
2. Flashlight photograph of dark passageway between two tenements. Rotting garbage and filth here attract swarms of flies.
3. Typical of many homes in the Haymarket district. Sanitation unheard of here.

## TUBERCULOSIS

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Warrensville  
Tuberculosis  
Sanatorium  
where the  
tuberculosis  
patients  
go



deau. This institution has a capacity of 254 beds for pulmonary tuberculosis, a number of beds being vacant at the time of visit. Most of the cases are moderately advanced, and a few far advanced. This admission of advanced cases in an institution that is supposed to care for early cases is unfortunate from many points of view. It tends to increase the mortality of the institution and to make comparisons between it and other sanatoria unfavorable from the point of view of Cleveland. It tends to give the institution a local reputation for having a high mortality, and to increase the unwillingness on the part of patients to be hospitalized.

The Commissioner of Health stated that a large percentage of the patients left against advice, though only a few because of genuine dissatisfaction. He stated that the average length of stay had been increased from three months in 1913 to six and a half months in 1918.

Those in charge, under the direction of the Health Commissioner, have developed an excellent method of grading patients at Warrensville on the basis of their ability to take exercise, the work merging into occupational therapy. Patients are graded all the way from active bed patients to those in an arrested stage, and followed up by occupational service. The plan seemed to be unique and very desirable, and its operation effective. Somewhat comparable to this occupational therapy system is the current classification chart in use at the sanatorium for patients of all types. This was devised by Dr. Frye, the resident physician in charge, and should be given wide publicity, for it is a device which would be useful for many institutions. This chart, by a series of colors, shows at a glance for each ward the beds occupied, the vacancies, the age, stage on admission, present condition, sputum findings, etc., for each case. The institution deserves much commendation for the maintenance of this system. From the point of view of the future working adjustment of the patient, it would be well to develop at this institution a system of special vocational training. This might well be looked upon as an economic obligation which the institution owes to the individuals under its charge.

#### ***The Ohio State Sanatorium.***

This institution provides approximately 23 beds for Cleveland cases, of the early pulmonary type.

#### ***The City Hospital.***

This institution provides 100 beds for advanced pulmonary tuberculosis, 84 of which are for men and 16 for women. The tuberculosis ward is situated on the edge of a deep valley, overlooking a number of industrial plants, and is exposed to a great deal of dust and smoke. At the time of the visit there were only 70 patients in the hospital, the empty beds being all on the male side. It was stated that the average length of stay is approximately one year, though some patients have been there six or seven years. Two patients were being held under compulsory segregation.

This institution comes in for a great deal of criticism with reference to food, nursing, medical care, general attention, etc. How much of it is justified is difficult to say. Certainly in physical equipment and general appearance, the building used by the tuberculosis patients has nothing to recommend it and should be replaced.

#### ***State Insane Hospital.***

This institution provides approximately 6 beds for advanced pulmonary disease from Cleveland.

**Other General Hospitals.**

A sickness census of the other hospitals of Cleveland at the time of the survey indicated that there were perhaps ten or a dozen cases of advanced pulmonary disease in the general hospitals of the city.

**FOR NON-PULMONARY TUBERCULOSIS, ARRESTED DISEASE, PREVENTORIUM CARE, CLOSED CASES AMONG CHILDREN, ETC.****The Warrensville Children's Camp.**

This camp is adjacent to the sanatorium at Warrensville, and has provision for 30 children. The provision is inadequate and the equipment could readily be expanded to provide for at least 50 cases.

**The Rainbow Hospital.**

This institution cares for an average of 40 non-pulmonary or arrested cases among children, chiefly orthopedic convalescents.

**The Home for Crippled Children.**

This institution has provision for about 25 cases of non-pulmonary tuberculosis.

**The Fresh Air Camp.**

This institution offers preventorium advantages for approximately 30 children throughout the year and occasionally takes discharged children from the Warrensville institution.

There are, in addition to this camp, a number of others for preventorium care in Cleveland. All told there are 12 or more summer camps for children and mothers with capacity of over a thousand beds. These activities were for the first time correlated during the summer of 1919, by the Cleveland Welfare Federation.

To summarize the bed facilities, the situation may be indicated as follows:

**For Pulmonary Disease**

Warrensville Sanatorium.....	254 beds
State Sanatorium.....	23 "
City Hospital.....	100 "
Insane Hospital.....	6 "
General Hospitals.....	10 "
<hr/>	
Total.....	393 beds

**For Non-Pulmonary Disease**

Warrensville Camp.....	30 beds
Rainbow Hospital.....	40 "
Home for Crippled Children.....	25 "
Fresh Air Camp.....	30 "
<hr/>	
Total.....	125 beds
Grand Total.....	518 "

While at the present time many of the beds in Cleveland are unoccupied, it was only a year or two ago that patients had to wait five months or more for admission. This lack of insistent demand for bed facilities at the present time is quite characteristic of national conditions, and is presumably temporary.

As a matter of fact it seems to be an unanimous opinion in Cleveland that there are many urgent needs for increased bed capacity. The most conspicuous of these may be briefly listed. They will be mentioned again in somewhat more detail subsequently. (See Part X.)

1. Beds for early pulmonary adult cases.
2. Beds for advanced pulmonary adult cases.
3. Beds for open pulmonary childhood cases.
4. Beds for surgically convalescent adult cases.
5. Beds for complicated adult cases, such as in pregnancy.
6. Beds for exposed early non-pulmonary cases among children from birth to five years of age.
7. Beds for closed childhood cases.
8. Possibly beds for relatively well-to-do, able-to-pay patients.

## OTHER ORGANIZATION COMMUNITY MEASURES

### *The Department of Education. (See Part III. for details.)*

This department has one full-time physician on its staff, and employs 25 physicians on part-time. The department has a supervisory nurse and 30 field nurses. It also has six dentists and six dental hygienists. Several eye clinics are in operation and a system of physical education is carried out. Twenty open air schools for under-par children, with morning and afternoon feeding, are conducted. There are at the present time also two nutrition classes in the Cleveland schools. Further, it was stated that one of the physicians on the part-time service had had special tuberculosis training and acted in a measure as a consultant for the other physicians.

### *The Anti-Tuberculosis League.*

In the past the Anti-Tuberculosis League of Cleveland has seized the opportunity to make Cleveland a city with recognized leadership in tuberculosis work. Most of the tuberculosis activities that are now carried on in Cleveland by official or private agencies were a result of the initiative and constructive energy of the League.

At the present time the League is somewhat at a stand-still in its active program. It is subsidizing other agencies quite generously. With the funds at its disposal it is giving financial aid to the teaching district. It is financing the health crusade movement in Cleveland, under the agency of the State Tuberculosis League. It is responsible for the excellent system of occupational therapy and follow-up in connection with the Warrensville Sanatorium.

The chief field for the League should lie along educational lines. However, during the past few years very little has been done in this field by any agencies in Cleveland. An educational campaign should be mapped out, a campaign which would fall primarily to the League for execution. It is understood that the League has adequate financial resources, through the Welfare Federation and as a result of the sale of Red Cross Seals, which would make possible a genuine up-to-date educational program.

#### **Charities.**

The Associated Charities of Cleveland is said to be one of the best organizations of this kind in the country. It employs 45 field workers, who operate in close cooperation with the health centers and the nurses doing tuberculosis work. There is also operated what appears to be an efficient case clearing house. The Associated Charities is supplemented by Jewish and Catholic charities as well. The districts employed by the charitable organizations in Cleveland in no way coincide with the health center districts.

#### **Industrial Medical Work.** (*See special report on Industrial Medical Service, Part VII.*)

The medical work in the industries of Cleveland is at the present time very inadequately developed. While there are several part-time physicians and a large body of nurses engaged in this work, there is no special tuberculosis work, very little routine medical examining, and an inadequate program for health and anti-tuberculosis education.

A thorough system of educational work in industry should be developed. This would be a legitimate activity for the Anti-Tuberculosis League. A plan should be mapped out somewhat similar to the recently proposed program of the New York City Tuberculosis Association. This calls for a campaign to secure the cooperation of the Chamber of Commerce, and the manufacturers' associations, noon-day special talks to the men in the factories, the distribution of literature to industrial workers in their shops, the organization of shop sanitation committees, the development of sentiment and demand for medical examination in industry, the establishment of model examining rooms for tuberculosis work, the development of exhibits for use in industrial establishments, etc.

#### **The Red Cross, the Consumers' League and other private agencies.**

Through these organizations, particularly the Red Cross, a number of demonstration and lecture courses in home nursing, home economics, infant care and feeding, and home sanitation and personal hygiene are offered. Interpreters are used for foreign groups, diplomas and pins are given for satisfactory attendance.

## VI.

## A Summary of Activities and Equipment

ON the basis of the foregoing material an attempt will be made to present a brief summary of the methods used and equipment developed to fight tuberculosis in Cleveland. The situation may be summarized under certain conspicuous headings, the first of which is:

**THE PREVENTION OF TUBERCULOSIS**

Tuberculosis is, first, an almost universal infection; second, an extensive disease; and third, a prominent cause of mortality. It is possible to take measures to prevent the infection, to prevent or arrest the active disease, and to prevent or postpone mortality. It is necessary, in fact, to consider the problem of prevention from these three points of view:

***The Prevention of Infection.***

Infection is acquired through contact with sick individuals, through sputum, through infected milk, or through intermediate contact by means of common utensils, etc.

To prevent unnecessary exposure by direct contact between sick and well individuals is largely a matter of education in personal hygiene. This is a field that has been only slightly developed in Cleveland, and should be considered a major activity for the immediate future. The segregation of dangerous cases of open tuberculosis is another matter of extreme importance. Cleveland has legislation for the control of incorrigible consumptives, but uses it only rarely. It is probable that its use could be materially increased.

The control of sputum transmission is a matter of sanitary law enforcement and education. Both the enforcement of sputum ordinances and the education of the public about the dangers of sputum are at present much neglected.

In the matter of milk control Cleveland seems to be meeting the situation with only fair success.

In the matter of the suppression of common utensils, no direct data are at hand. This, of course, is largely a matter of education in personal hygiene, through schools, factories, and among the general public, and it must be admitted that much remains to be done along that line in Cleveland. There is also involved here the essential equipment for proper living, such as adequate and hygienic equipment in housing. We have seen that the situation in Cleveland in this regard is in many respects deplorable.

***The Prevention of Disease.***

If infection cannot be prevented, what measures can be taken to prevent disease? How adequately are these measures developed in Cleveland?

The incidence of active disease, upon the basis of almost universal infection, is a matter of individual break-down under some form or combination

of stress or strain, physical or mental. This strain, of course, is most prevalent in the younger age groups, particularly in the industrial period. It is there that we find the greatest economic handicap from tuberculosis disease. To combat this factor in industry, there is needed an aggressive campaign of industrial hygiene, and this is yet to be developed in Cleveland. It means education in industrial sanitation, of employers and employees. It means the establishment of adequate medical, nursing and clinical facilities and personnel in industry. It means the routine regular examination of industrial employees to detect the beginning of signs of disease. It means the consistent and thorough occupational and educational follow-up of arrested cases of disease as they return to industrial pursuits.

The prevention of disease is also a matter of increasing individual resistance, as well as reducing the factors of strain. This means general education along the line of constructive hygiene. It means the promotion of home hygiene. It involves the development of various preventorium activities, such as summer camps, etc. It implies a campaign to improve food habits and particularly to increase milk consumption. In the matter of summer camps and preventorium facilities, particularly for children, Cleveland seems reasonably well equipped. Something is being done by the Red Cross and other agencies in the matter of home hygiene. Very little is being done for the general population in the matter of hygienic education. Finally, the situation with reference to food hygiene, and particularly milk consumption, is serious.

This latter problem, of course, is not only one of increasing milk demand but also of increasing milk supply. It is a matter which deserves the serious consideration of all interested in the welfare of Cleveland, and is an economic as well as nutritional problem. It is possible that eventually the solution of this problem in municipalities will be found in the field of the socialization of city milk supplies.

#### ***Prevention of Unnecessary Mortality.***

This is in large measure a matter of improved therapeutic practice. It means the popularization of adequate treatment measures, the enhancement of institutional methods, or increased institutionalization of active tuberculosis disease. For Cleveland it means an aggressive educational campaign to popularize and stabilize the use of existing sanatorium and hospital equipment, and it will mean eventually an increase in that equipment. An extensive, popular educational campaign might do much to increase the willingness of patients to come to the institutions, and to hold them there once they are hospitalized. Probably consistently high grade professional service for the sick will be the most effective solicitor for the use of Warrensville for early cases of tuberculosis.

#### ***THE DETECTION OF TUBERCULOSIS***

As pointed out previously, the amount of known tuberculosis in Cleveland in ratio to population is at least up to, and perhaps above, the average for other American municipalities.

The nursing and health center organization is certainly of an advanced type, and Cleveland is to be congratulated upon the progress that has been made in that field, and upon the example which the city sets for other municipalities.

On the other hand, when measured by theoretical standards of probable tuberculosis incidence, the actual ratio of reported cases to deaths (4.7 to 1) is low. Nine or ten cases to every annual death should be under observation or treatment.

The percentage of early cases (approximately 50 per cent) of the total cases reported is low, as compared with what may be accomplished with special machinery for the detection of tuberculosis (Framingham—74 per cent).

The percentage of cases reported before death (75 per cent or less) is also low. (Framingham—94 per cent).

As supplementary equipment to the nursing and health center work, to the medical work in schools, and to a certain extent in the infant clinics, Cleveland needs much additional routine medical and disease detecting machinery, particularly in the field of industry. Further, the discovery of tuberculosis could be greatly enhanced by the establishment of some form of advanced diagnostic training for the physicians in the clinics and in general practice, and particularly by the establishment of an expert consultation service working for the detection of disease, through the health centers, and with the general practising physicians in the city.

### THE TREATMENT OF TUBERCULOSIS

As might be pointed out Cleveland is at the bottom of the list of a number of comparable American cities in the ratio of tuberculosis beds to population. The investigation, and the numerous conferences with leaders in tuberculosis work in Cleveland have emphasized that there is at present pressing need for institutional provision for the many types of tuberculosis patients.

On the basis of experience elsewhere, it has been accepted that each community should provide at least one bed for every annual death from tuberculosis. Cleveland averages from 1,000 to 1,200 annual deaths and now has available 518 beds for pulmonary and non-pulmonary disease. This means that to meet the minimum requirements, the existing facilities should be approximately doubled.

The nursing work, while of importance in disease detection, is of primary significance in treatment. The generalized system seems to work with fair advantage in meeting the tuberculosis problem. On the other hand, the present supply of nurses is inadequate.

There are 80 nurses provided by the Division of Health, approximately 32 nurses doing district nursing for the Visiting Nurse Association, 31 school nurses of the Board of Education, and a variable number of student public health nurses in the University District estimated as equalling 10 nurses in amount of service rendered. This gives a total of 153 nurses available for public health nursing in Cleveland. Over one hundred more are needed.

It is estimated that it requires at least one nurse for every 3,000 of the population (some authorities estimate one to 2,000 of population) to cover all the needs of the population in the generalized system.

By the generalized system is meant a system by which the city is divided into small districts, one nurse to each district and the one nurse doing all kinds of nursing and instruction in health in that district. In no large city has a completely generalized system been

instituted; in Cleveland generalization has reached the point of concentrating all public health nurses in three agencies. These agencies again have generalized their activities by having one nurse in each district carry on all services which the agency offers. In the University District generalization is carried farther, the school nurses being the only separate group.

It is also probable that treatment could be improved by supplying more adequate specialized supervision. This is essential where generalized nursing is employed.

Material relief is of vital importance in the treatment of many tuberculosis patients and seems to be on the whole adequate. This is the opinion of the Division of Health workers, as well as of the Associated Charities. On the other hand, certain of the nurses seem to feel that it is difficult to get from the Relief Organizations an adequate budget for food for tuberculosis families. It is quite evident from the milk study that while the relief families are a little better off on milk supply than the non-relief families, they are receiving, nevertheless, a milk supply which falls short by nearly 50 per cent of being adequate to meet the family needs. This is a situation which should be recognized and met.

The conditions at the Warrensville Sanatorium do, of course, bear an important relation to treatment. Much has been done in a practical way during the last year or two to improve the situation there. Heating arrangements have been perfected and improvements made in the food supply. Those in charge have also been successful in increasing the average stay of patients, the figure now being six and one-half months. This compares favorably with other institutions of similar character. For instance, at the Maryland Tuberculosis Sanatorium in 1917 the average stay was five and one-sixth months. The war industrial developments since then must have tended to reduce that figure rather than to have increased it.

#### *FOLLOW-UP METHODS*

An effort is being made in Cleveland by the Anti-Tuberculosis League to follow up cases being discharged from or leaving the sanatorium. The secretary in charge of this work, endeavors to find employment for arrested cases, through the Chamber of Commerce Employment Managers Group, the City Employment Office, the Division of Labor, the Negro Welfare League, the Y. M. C. A., etc. He endeavors to follow up all Warrensville cases, but is of course by no means always successful. He was successful in 1918 in placing 24 cases in satisfactory occupations. This, however, was only a small percentage of the total cases leaving the institution. For instance, for the period of one year 135 males alone left the institution.

Of all the cases that do leave and are classified as arrested, it is essential that they be followed up for at least a year to determine the degree of satisfactoriness with which they are making an industrial and social re-adjustment. It is customary in Cleveland to drop arrested cases after an observation period of six months. From the point of view of follow-up, this time could with advantage be extended.

The percentage actually leaving the Warrensville institution is in a sense a measure of the need for follow-up, and is also a measure of the effectiveness of treatment. On the male side alone during a recent annual period 135 left the institution, 59 of whom were unimproved. This is 44 per cent of the total and seems like a high percentage. In reality it does not compare very unfavorably with other institutions for which similar figures are



available. At the Raybrook Sanatorium in New York State, for instance, in 1917, of the patients admitted as incipient, 5.5 per cent left unimproved; of those admitted as moderately advanced 33.8 per cent left unimproved; of those admitted as advanced 61.9 per cent left unimproved. It is probable that this figure of 33.8 for Raybrook's moderately advanced cases is in a genuine sense comparable with the Warrensville percentage of 44. It is probable that most of the cases admitted at Warrensville are in a moderately advanced state when institutionalized, even though the institution was designed as a place for the treatment of incipient disease. Such it should be, but it is not at present. Certainly an energetic effort should be made, not only to institutionalize more early cases, but also to reduce the percentage leaving in an unimproved condition.

Finally, with reference to Warrensville, it may be said that the "case bookkeeping" at the institution is admirable. The quality of the professional records as to examinations, and appended notes, is all that could be desired.

### ***EDUCATION AGAINST TUBERCULOSIS***

Much has been said already about education under the headings Prevention, Detection, Treatment, etc. Educational measures against tuberculosis in Cleveland are for the most part lacking at present. Much, in fact, should be done by the League and by other agencies to fill this lamentable gap in the Cleveland bulwarks against disease. Very little special educational work is being carried out against infection, against disease, or against premature death. Very little educational work is being done in industry. Special efforts at education are needed to increase the effectiveness of the existing diagnostic and treatment facilities.

### ***TUBERCULOSIS RESEARCH AND TEACHING***

At the present time there is in Cleveland very little opportunity for special research in tuberculosis work. This applies to laboratory as well as social research. There is need of a special experimental demonstration along the lines of disease detection and control and there is an excellent opportunity for such work in the established health districts.

While Cleveland possesses an excellent medical school, very little advantage is taken of the equipment and personnel to enhance the knowledge of tuberculosis among the medical profession in general. No post-graduate work is offered in tuberculosis at this institution. No special training is provided for the physicians engaged in the health centers. No special opportunities for training and for consultation are offered to the general practitioners. All of these might legitimately be expected from a medical institution of the standing of Western Reserve University.

### ***ANTI-TUBERCULOSIS ORGANIZATION***

The establishment of the Bureau of Tuberculosis in the Division of Health was a great step in advance. However, to realize the full advantages of this measure this Bureau should be given a full-time chief. The Bureau should be brought into closer relation with the medical school, for teaching purposes at least.

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Other obvious needs in organization, if the tuberculosis situation is adequately to be met, include improved statistical work in the Division of Health, modifications in the system of case bookkeeping, the extension of the program and personnel of the Anti-tuberculosis League, a closer inter-relation between the League, the Bureau of Tuberculosis and the medical school, etc.

## VII.

**Recommendations**

**T**HE foregoing analysis of tuberculosis work in Cleveland has indicated that in many respects Cleveland is to be congratulated upon the admirable way in which the public and private agencies have pushed forward the organization and program for combating this disease.

The report has also indicated that the chief deficiencies in the tuberculosis machinery at the present time are in the fields of tuberculosis detection, treatment, education, organization and general sanitation.

In summarizing the conclusions and recommendations made in various sections of the foregoing report, the particular suggestions which seem worthy of special consideration are as follows:

**ADDITIONAL MACHINERY FOR THE DETECTION OF TUBERCULOSIS**

To supplement the existing machinery for disease detection we would, on a basis of the report, recommend the following supplementary measures:

***A Post-Graduate Training Course in Tuberculosis.***

This course should presumably be organized at the Medical School, though its actual operation might be carried out in cooperation with the Bureau of Tuberculosis or the Anti-Tuberculosis League, or both agencies.

In its curriculum it should emphasize the medical problem of diagnosis, classification and treatment.

If a general diagnostic medical center is established, it might be operated in close cooperation with such an agency.

The courses should be open to the general practitioners in Cleveland and elsewhere, and should be made compulsory for the physicians serving in the health centers. Should the Medical School wish to establish such a service, active cooperation could be secured from the Medical Department of the National Tuberculosis Association.

***An Expert Consultation Service.***

Such a service, on tuberculosis, should be established either by the Bureau of Tuberculosis or by the Anti-Tuberculosis League, working in close cooperation with the Medical School.

This might be at the start either a general service covering all sections of the city, or perhaps preferably a special demonstration service, concentrating in one health district, and working with the physicians of that district, through the center.

This service should be, in the first place, for the clinic physicians, but should gradually be extended through the clinics to the physicians in the neighborhood.

Such a consultation service may be counted upon to do the following things for tuberculosis detection in Cleveland: It will increase the number of cases under care. In Framingham, Massachusetts, it helped materially to increase the number from 27 to 200. It will increase the percentage of early cases under care. In Framingham, Massachusetts, it assisted materially in increasing this percentage from 46 to 74. The percentage of early cases in Cleveland at present is approximately 50. It will increase the number of cases cared for in institutions. In Framingham, Massachusetts, this percentage was increased from 20 to 33 per cent. It will help to increase reporting. In Framingham, Massachusetts, the consultation service and other activities quadrupled reporting over previous experience. It will serve as an excellent basis for medical education, being in itself a constantly operating post-graduate instruction course.

The consultation service acts as a triple link in the community, connecting up the patient and the doctor for early diagnosis, the patient and treatment facilities, and the doctor and scientific knowledge.

*utine Work Among Infants, in Schools, in Factories.*

While the consultation service is the most valuable single measure for the detection of tuberculosis, to be effective it should be supplemented by routine medical work in schools, factories and elsewhere. The consultant may act in his special capacity with as great advantage for the ordinary physician in school and factory work as for the private practitioner.

As has been pointed out in the report, there is a glaring need for adequate full-time medical examination and nursing work in the industries of Cleveland. While the school work is relatively adequate, there is an undeveloped field in prenatal care and among children of pre-school age.

**ADDITIONAL TREATMENT FACILITIES**

This report has indicated that there are at present 393 beds for pulmonary tuberculosis, and 125 beds for non-pulmonary tuberculosis, making a total of 518 available beds in Cleveland. It has also been stated that there should be in Cleveland approximately one bed for every annual death, which at a minimum would mean one thousand beds. The report has also discussed those elements in the population and those forms of the disease which most need increased bed facilities. These needs might be summarized as follows:

Increased capacity for early cases. It is estimated that at least 200 beds for early cases should be added to the Warrensville equipment. A concentration upon the discovery of tuberculosis will soon more than fill such an institution. It is understood that there has been in the past several hundred thousand dollars available for tuberculosis institutions. If this is still available or can be re-appropriated, it should be immediately employed for the extension of sanatorium accommodations at Warrensville.

As the work in Cleveland progresses, and indeed before very long, there will also develop a pressing need for hospital care for advanced cases. It is suggested that at least 200 beds be made available for this type of case, preferably in connection with the City Hospital.

There is at the present time a pressing need for treatment facilities for open active cases among children. A ward of at least 30 beds should be added to the Warrensville equipment for this purpose.

The facilities for the treatment of the closed cases among children at Warrensville are inadequate and could with advantage be expanded to include 20 additional beds.

Some provision should also be made for surgical cases complicated by tuberculosis, at City Hospital for acute and at Warrensville Infirmary for chronic surgical disabilities.

Provision should also be made for complicated tuberculosis cases, particularly among women, where the disease is associated with pregnancy, syphilis, or other conditions.

There is at the present time an urgent demand for preventorium institutional facilities for children under five years of age who have incipient disease, or who have been exposed to the disease and are in an under-par condition.

There is probably also a need for institutional provision for the type of case that can afford to pay a self-supporting fee for hospital treatment. This would add approximately 450 beds to the existing equipment, making a total of 968 beds.

At Warrensville at the present time there are 254 beds for adults and 30 beds for children, or a total of 284 beds. If to this should be added 200 beds for early cases, 30 beds for open cases among children, and 20 beds for closed cases among children, or a total of 250 beds, the grand total of bed facilities at Warrensville would amount to 534 beds. If, further, 200 additional beds were provided at Warrensville for advanced cases, as has been planned for by the tuberculosis leaders in Cleveland, it would bring the capacity of the Warrensville institution to 734 beds. This would make a decidedly unwieldy institution as to size, and from that point of view it would be more advantageous to consider attaching the 200 beds for active advanced pulmonary adult cases, and for cases held pending distribution to sanatoria outside of the city, to a city institution, such as the City Hospital. Provision for 200 beds for pulmonary tuberculosis is planned in the proposed additions to the City Hospital.

#### **TUBERCULOSIS EDUCATIONAL PROGRAM**

An educational program against tuberculosis may develop three main points of attack: against infection, against active disease and against mortality. Among every 100 people in the average community there are 80 or 90 infected with tuberculosis. An educational program should attempt to reduce this percentage. In these same 100 people at any one time from one to two will be suffering from tuberculous disease. An educational program which fails to prevent infection should at least endeavor to prevent tuberculous disease. Approximately 10 of the average group of 100 people are going eventually to die of tuberculosis. An educational program to be complete must, therefore, aim not only against infection and against disease, but against mortality.

A complete educational program against tuberculosis may find its development in two fields: public hygiene and personal hygiene. Public hygiene will in large part deal

the equipment for hygienic living. Personal hygiene will deal with the modes of tence. Personal hygiene aimed against infection will be of the suppressive type, personal hygiene aimed against disease will be creative in character. Finally, the f considerations of creative personal hygiene are three in number: home hygiene, l hygiene and the more distinctively personal hygiene.

There follows a very brief skeleton outline of some of the main considerations in the elopment of a complete educational program. For the utilization of this program, only will the details have to be filled in, but the suggestive theoretical considerations have to be translated and developed into practical illustrative propaganda.

The custom of the State of Missouri might with great benefit be followed by the te of Ohio, through state legislation or by the Board of Education of Cleveland through lution or enactment of city ordinance. The statutes of Missouri, R. S. 1909, Section 106, provide that "special instruction as to tuberculosis, its nature, cause and preven-, shall constitute a part of the course of instruction and be taught in all public schools ported wholly or in part by public money or under state control."

#### EDUCATION AGAINST INFECTION .

##### *Public Hygiene.*

Milk pasteurization.

Elimination of common utensils.

The enforcement of spitting ordinances.

The encouragement of institutional treatment, with enforced segregation when necessary, particularly for the protection of exposed children.

The development of routine medical detection machinery for all types of active tuberculous disease, including examination work in schools, factories and elsewhere.

##### *Personal Hygiene (Suppressive).*

The avoidance of unnecessary contact with the sick.

The avoidance of common utensils or other points of intermediate contact.

The avoidance of dangerous coughers, sneezers, etc., and the encouragement of respiratory hygiene.

#### EDUCATION AGAINST DISEASE

##### *Public Hygiene (Equipment for Living).*

The encouragement of proper housing equipment, with education against congestion and the lack of facilities for cleanliness.

Occupational hygiene, with the relation of overwork, excessive fatigue, unnecessary dust, and other industrial hazards, etc.

The development of special medical machinery for the detection of incipient disease, such as the consultation service.

Propaganda to emphasize the basic importance of the elimination of extreme poverty and destitution.

The promotion of special hygienic equipment measures and practices, such as open-air schools, recreation facilities, posture clinics, nutrition classes, etc.

***Personal Hygiene (Methods of Living—Creative).***

**Home Hygiene:**

- Ventilation.
- Cleanliness, hand washing, etc.
- Illumination, etc.

**Food Hygiene:**

- Economy and selection.
- Home care and preservation.
- Dietetic control.

**Personal Hygiene:**

- Exercise.
- Rest.
- Recreation.
- Recognition of early symptoms as danger signals.
- A moderate life—avoidance of excess, elimination of strain, etc.
- Regular medical examinations.
- The creation of a "will to be healthy."

**EDUCATION AGAINST MORTALITY**

***Public Hygiene.***

Popularization of hospital and sanatorium treatment, creation of public demand for adequate clinical and nursing service, etc.

Institutional treatment or follow-up—economic and social adjustment.

***Personal Hygiene.***

- Advice to seek the best medical opinion early and follow it.
- Information regarding the danger of contagion and the spread of the disease.
- Education against drugs and patent medicines.
- Emphasis on tuberculosis therapy: rest, fresh air, food, etc.
- Attractiveness and value of institutional treatment, with minor importance of climatic conditions.
- Education regarding the proper adjustment of the arrested case to life and work.

## ORGANIZATION

### *Division of Health.*

#### *The Bureau of Tuberculosis.*

It can be recommended that in the Division of Health a full-time chief be found for the Bureau of Tuberculosis. This chief should administer the activities of the Bureau, should also presumably be a man of sufficient clinical training to act in the capacity of expert tuberculosis consultant, and might also serve in a third capacity as head of the tuberculosis post-graduate instruction work at the Medical School. In this way these three important services—administration, consultation and instruction—might be effectively linked together. Such a service, under present conditions in Cleveland, if established under the Division of Health, would probably have to be subsidized from the financial resources of the Anti-Tuberculosis League.

#### *The Statistical Bureau.*

It is of particular importance to tuberculosis study, and presumably of great importance to all other health problems, that the Bureau of Statistics be further developed than has been the case at present. At the present time it appears that not enough money is appropriated for this work, and that the records are inadequately provided for.

From a statistical point of view, it is also important that an effort be made, in figuring tuberculosis death rates in the future, that non-residents be excluded and residents dying out of town included. The records for the past decade at least should be gone over with a similar object in view, in order to furnish a statistical basis for future comparisons. (See special section on Statistics in Part II.)

#### *The Nursing Staff.*

The nursing staff could with advantage be materially increased. The 80 nurses for the Division of Health, plus approximately 32 nurses of the Visiting Nurse Association, 31 school nurses and 10 student nurses in the University District, totaling 153 doing generalized public health nursing work, would have to be supplemented by 113 nurses to bring the total to what is considered a minimum requirement, making available one public health nurse for every 3,000 of the population, or 266 nurses for Cleveland.

While the generalized system seems to be working admirably, there are some indications of the need of greater specialized supervision than it has been possible to provide to date. While this is of general importance, it is of particular significance in tuberculosis work, if a special interest such as tuberculosis is not to suffer.

#### *Case Classification.*

There has been recommended a somewhat modified system of current case bookkeeping, a system based on the functional tuberculosis classification chart developed by the Framingham Community Health and Tuberculosis



**Demonstration.** This chart has been described in available literature, and need not be discussed in detail here. The system of classification of cases is somewhat modified, on the basis of the National Tuberculosis Association classification. The cases are then tallied on a current functional chart, this chart makes clear the channels through which new cases are being unearthed, shows the variety of early cases that are bound to be discovered in any community, emphasizes different types of advanced cases and distinguishes between different types of arrested cases, reflects the closeness of case follow-up, demonstrates the progression or retrogression of each case under consideration, makes simple a monthly summing up of case records by a health center, encourages the persistent follow-up of arrested cases, and has other advantages too detailed to be discussed here.

Such a system, if incorporated under the health center routine, would greatly facilitate the intimacy of contact between the central bureau of tuberculosis and the outlying clinics, an object to be accomplished by routine summaries from the current classification chart, submitted regularly to the central office.

#### ***The Anti-Tuberculosis League.***

It is to be hoped that the League personnel and program can be expanded to meet the current tuberculosis situation in Cleveland. The League requires a full-time secretary, and should have at least one main division of work, an educational division, with an assistant in charge of that division, organized for educational purposes. This division should continue the follow-up work from the sanatorium, the occupational therapy, etc. and should be primarily concerned with the development of the comprehensive program of anti-tuberculosis and health education previously outlined.

If for reasons of local expediency it turns out to be impracticable to develop the consultation service and other newly proposed medical services in the Bureau of Tuberculosis of the Division of Health, it may become necessary for such a bureau to be developed in the League itself. This would constitute a second division of the League; namely, a medical division, headed by a medical secretary, to help in the development of the post-graduate training course at the Medical School, to foster the development of institutional facilities, to cooperate with the Division of Health dispensaries in the development of a consultation service, and possibly to operate a traveling clinic in the county outside Cleveland. Such a bureau, even if developed under the auspices of the League, would form a unit in organization and operation, and might eventually as a unit be transferred to the official health body. This, however, is suggested simply as a possible alternative, recognizing that all of this work logically belongs in the Division of Health, and should, if possible, be developed there from the beginning.

To carry out such a program the League would require a secretary, an educational director and a medical director. To develop an educational and medical program without a suggested traveling clinic equipment and operation, would require an annual budget of approximately \$20,000.00. With such a traveling clinic the estimated annual budget would more nearly approximate \$35,000.00, including clinic equipment. It is understood that the League could probably raise this amount of money with the help of the Welfare Federation, supplemented by the Red Cross Seal Sale. If, however, the medical work can be developed under the Division of Health, the budget required would be approximately fifteen thousand dollars.

## The Spirit of Cleveland

**C**LEVELAND has always been a pioneer community, a community with courage, resourcefulness and vision. A forward-looking city, guided by the spirit of cooperation and good will, it is seeking a true appraisal of its genuine needs.

In the past the city has admirably accepted the challenge to make Cleveland the national leader in health and tuberculosis work. Its obligations have been met in the Cleveland way.

Having accomplished much, it was legitimate to ask: "What is the next step in the control of tuberculosis in Cleveland?"

The willingness of Cleveland to face its problems with patience and courage, its social motive, its spirit of digested idealism, all give assurance of exceptional accomplishment in the future.

It remains for a leading American municipality to demonstrate that tuberculosis can, under intense urban conditions, be controlled. Cleveland possesses the knowledge, the resources and the spacious-minded leadership essential to this task.

TABLE I.

*Tuberculosis Deaths by Age, Pulmonary and Non-Pulmonary, 1913-1918, Inclusive*

Forms	Under 1 yr.	1-4	5-9	10-19	20-29	30-39	40-49	50-59	60-69	70	Total
Pulmonary.....	45	65	45	395	1465	1299	891	515	249	85	5054
Non-pulmonary ....	116	196	78	106	40	121	61	41	23	12	794
Totals.....	161	261	123	501	1505	1420	952	556	272	97	5848
Per cent of total....	2.8	4.5	2.1	8.6	25.7	24.3	16.3	9.6	4.6	1.5	100.

TABLE II.

*Tuberculosis Death Rates per 100,000 for the Years 1913-16, Based on the Estimated Population by Age*

Forms	Under 1 yr.	1-4	5-9	10-19	20-29	30-39	40-49	50-59	60-69	70	Total
Pulmonary.....	45.6	12.7	10.3	54.5	148	172	178	188	189.4	144	116
Other Tuberculosis	113	50	20.2	14.4	13.7	15.2	10.3	16.7	19.4	26.4	203

TABLE III.

*Tuberculosis Deaths by Sex (All Forms) 1914-1918, Inclusive*

Sex	1914	1915	1916	1917	1918	Total
Male.....	542	546	635	776	768	3267
Female.....	301	315	387	432	422	1857
Totals.....	843	861	1022	1208	1190	5124

TABLE IV.

*Pulmonary Tuberculosis Deaths by Occupation, 1914-1918*

Occupation	Total Deaths
Housework.....	1107
Laborer.....	985
Clerk (office).....	185
Student.....	181
Machinist.....	165
Teamster and Truckman.....	99
Carpenter and Woodworker.....	94
Seamstress and Tailor.....	91
Moulder.....	62
Clerk (store).....	56
Metal Worker.....	54
Painter.....	49
Salesmen (traveling).....	46
Saloon Keeper.....	38
Seaman.....	36
Printer and Lithographer.....	35
Cook.....	33
Stenographer.....	33

TABLE V.

*Forms of Tuberculosis*

Period	Total Pulmonary Tuberculosis Deaths	Non-Pulmonary Tuberculosis Deaths	Percentage of Non-Pulmonary Tuberculosis Deaths
1917.....	1024	184	17.9
1918.....	1020	169	16.6
1913-1918.....	5848	794	13.6

TABLE VI.

*Attendance at Health Centers for 1914-1918, Inclusive*

Centers	1914	1915	1916	1917	1918	Total
1.....	1,812	1,438	1,539	2,232	1,624	8,645
2.....	2,630	3,008	3,074	2,232	1,788	12,732
3.....	2,296	4,402	2,101	1,066	861	10,726
4.....	1,645	2,087	1,755	1,201	1,201	7,889
5.....	1,768	2,098	1,706	1,433	1,506	8,511
6.....	211	1,572	2,175	1,536	1,539	7,033
7.....	.....	148	1,906	1,646	2,246	5,946
Totals.....	10,362	14,753	14,256	11,346	10,765	61,482

TABLE VII.

*Number of New Cases at Health Centers for 1914-1918, Inclusive*

New Cases	1914	1915	1916	1917	1918	Total
1.....	626	398	453	409	390	2,276
2.....	546	663	554	468	443	2,674
3.....	573	859	423	227	195	2,277
4.....	383	482	405	277	321	1,868
5.....	464	533	428	393	363	2,181
6.....	59	456	444	348	377	1,684
7.....	.....	25	352	332	393	1,102
Totals.....	2,651	3,416	3,059	2,454	2,482	14,062

TABLE VIII.

*Illness in Special Milk Consumption Study Families Among  
Adults and Children*

Causes	Adults		Children	
	No.	Per Cent	No.	Per Cent
<b>General—</b>				
Tuberculosis.....	88	3.95	24	.78
Typhoid.....	1	.045	0	.0
Whooping Cough.....	0	.0	9	.292
Cancer.....	6	.27	0	.0
Rheumatism.....	12	.54	1	.032
Contagious.....	20	.90	73	2.37
Other.....	0	.0	1	.032
<b>Nervous and Special Senses—</b>				
Spinal Cord.....	12	.54	1	.032
Cerebral Hemorrhage.....	5	.225	0	.0
Mental Alienation.....	5	.225	0	.0
Epilepsy.....	0	.0	1	.032
Other Nervous.....	4	.18	1	.032
Eyes and Ears.....	0	.0	14	.455
<b>Circulatory—</b>				
Heart.....	7	.315	4	.13
Other.....	4	.18	0	.0
<b>Respiratory—</b>				
Nasal Fossa.....	0	.0	1	.032
Bronchitis.....	6	.27	8	.26
Pneumonia.....	4	.18	11	.358
Asthma.....	3	.135	0	.0
Other.....	7	.315	17	.552
<b>Digestive—</b>				
Pharynx.....	5	.225	7	.228
Stomach (ulcer, etc.).....	7	.315	7	.228
Hernia.....	0	.0	2	.065
Malnutrition.....	0	.0	22	.715
Other.....	0	.0	9	.292
<b>Genito-urinary (non-venereal)—</b>				
Nephritis.....	3	.135	0	.0
Other.....	7	.315	0	.0
<b>Puerperal—</b>				
Normal Child-birth.....	66	2.96	0	.0
Skin.....	6	.27	6	.195
Bones.....	1	.045	1	.032
External.....	13	.584	6	.195
<b>Ill Defined—Miscellaneous.....</b>	<b>68</b>	<b>3.05</b>	<b>86</b>	<b>2.79</b>
<b>Total.....</b>	<b>360</b>	<b>16.16</b>	<b>312</b>	<b>10.14</b>
<b>Grand Total.....</b>	<b>672—12.7%</b>			

TABLE IX.

*Tuberculosis—Active, Suspicious, and Exposed, in Milk Consumption Study Families*

Forms	Adults		Children		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Active.....	88	3.95	24	.78	112	2.11
Suspicious.....	22	.99	20	.64	42	.79
Exposed.....	7	.31	26	.84	33	.62
Total.....	117	5.25	70	2.26	187	3.52

TABLE X.

*Methods of Milk Purchasing*

How Delivered	Number of Families	Percentage of Families
0.....	4	.4
Bottled.....	779	77.9
Bulk.....	6	.6
Canned.....	67	6.7
Bottle and Bulk.....	14	1.4
Bottle and canned.....	212	21.2
Bottle, canned and otherwise.....	1	.11
Bottle and otherwise.....	2	.2
Bulk and canned.....	6	.6
Bottle, bulk and otherwise.....	4	.4

TABLE XI.

*Amount of Milk Consumed*

No. of Families	Daily Amount per Family Qts.	Amount in Bottle or Bulk Qts.
6.....	0	0
4.....	$\frac{1}{4}$	1
65.....	$\frac{1}{2}$	32 $\frac{1}{2}$
358.....	1	358
86.....	1 $\frac{1}{2}$	129
274.....	2	548
22.....	2 $\frac{1}{2}$	55
71.....	3	213
5.....	3 $\frac{1}{2}$	17 $\frac{1}{2}$
19.....	4	76
10.....	5	50
920		1480

TABLE XII.

*Milk Consumption by Relief Families*

(Bottle or Bulk, Only)

No. of Families	Quarts per Day	Total Quarts
2	0	0
4	$\frac{1}{4}$	1
23	$\frac{1}{2}$	11.5
136	1	136
35	$1\frac{1}{2}$	52.5
131	2	262
9	$2\frac{1}{2}$	22.5
35	3	105
1	$3\frac{1}{2}$	3.5
10	4	40
4	5	20
<b>Totals</b> .....390		<b>654</b>

TABLE XIII

*Milk Consumed by Non-Relief Families*

(Bottle or Bulk, Only)

No. of Families	Quarts per Day	Total Quarts
1	0	0
3	$\frac{1}{4}$	.75
42	$\frac{1}{2}$	21
217	1	217
51	$1\frac{1}{2}$	76.5
143	2	286
13	$2\frac{1}{2}$	32.5
36	3	108
9	$3\frac{1}{2}$	31.5
9	4	36
6	5	30
<b>Totals</b> .....530		<b>839.25</b>





# **THE CLEVELAND HOSPITAL AND HEALTH SURVEY REPORT**

## **List of Parts and Titles**

- I. Introduction.**  
**General Environment.**  
**Sanitation.**
- II. Public Health Services.**  
**Private Health Agencies.**
- III. A Program for Child Health.**
- IV. Tuberculosis.**
- V. Venereal Disease.**
- VI. Mental Diseases and Mental Deficiency.**
- VII. Industrial Medical Service.**  
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308 Anisfield Building,  
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# Venereal Disease

## PART FIVE

**Cleveland Hospital and  
Health Survey**



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# **Venereal Disease**

## **PART FIVE**

**Cleveland Hospital and  
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**by**  
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## Preface

The Hospital and Health Survey of Cleveland was made at the request of the Cleveland Hospital Council.

The Survey Committee appointed to be directly responsible for the work and through whose hands this report has been received for publication consisted of the following:

MALCOLM L. McBRIDE, *Chairman*;

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THOMAS COUGHLIN,

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and the following collaborators:

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LOUIS I. DUBLIN, Ph. D., *Director of the Vital Statistics Survey*.

The expenses of the Survey and of the publication of the report have been met by appropriations received from the Community Chest, through the Welfare Federation, of which the Hospital Council is a member.

The report as a whole, or by sections, can be obtained from the Cleveland Hospital Council. A list of the parts will be found in the back of this volume, together with prices.



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# Venereal Disease\*

By

ALEC N. THOMSON, M. D.

MR. BASCOMB JOHNSON

MRS. MARTHA P. FALCONER

MR. F. O. NICHOLS

## I. General Statement

PRESENT facilities in Cleveland for the control of the venereal diseases are, generally speaking, as satisfactory as those in the more advanced cities throughout the United States. There are three dispensaries treating cases of gonorrhea and syphilis, and one clinic serving as a diagnostic and advisory center. Facilities for treating cases that require hospital care exist only at the City Hospital. The present laws for the prevention of infection through sexual promiscuity are in the main adequate. The official machinery for the enforcement of these laws exists, but in certain instances is practically inoperative. The institutions that are a necessary corollary to the proper functioning of this machinery are in part lacking, and, where present, need rearrangement or reorganization to fulfill their greatest usefulness.

Other facilities that are distinctly of value as preventive measures (such as recreation, amusements, playgrounds and the like) have not been thoroughly appreciated as factors tending to reduce or control the venereal diseases, nor have they been correlated with the latter. Facilities for the general hygiene education of the general public, of special groups (such as mothers, parents, nurses, doctors, etc.) and of community leaders may be said to be non-existent.

Past accomplishments of the City of Cleveland in the combating and control of the venereal diseases may be summed up by saying that, aside from such treatment facilities as have been available through the dispensaries, the City Hospital and the general medical profession, no appreciable amount of continuous, constructive work has been done. In this respect Cleveland does not differ from many other cities of the same size; but, with its remarkable community spirit, one is surprised to find that it has not moved ahead in this field during the past few years. The Division of Health has made some sporadic attempts under great handicaps to educate the public, and the clinics have grown steadily, but no concerted effort can be said to have developed.

The present needs of Cleveland are the present needs of the country at large—a greater appreciation by the leaders of the community of the seriousness and prevalence of the venereal diseases, as well as a greater understanding on the part of the general public of the practical and comprehensive program of social and medical measures that must be carried out. Perhaps

The services of the investigators were contributed by the American Social Hygiene Association

the compelling need of the moment is a complete community understanding of the importance of promptly availing itself of competent, adequate treatment for the infected, and, as a corollary to this, of the necessity of providing adequate treatment facilities. It is, of course, self-evident that the utilization of all measures which may be brought to bear against the further spread of gonorrhea and syphilis must be promoted simultaneously if any great reduction in the number of cases is to be secured. Equally urgent, then, is the present need for planning a general educational campaign through every available channel to reach the many groups that make up the community.

### RECOMMENDATIONS

The methods of demonstrated value in combating and controlling the venereal diseases which should be considered in determining a plan for a city such as Cleveland may be divided into:

#### 1. *Protecting Individuals from Exposure.*

- (a) An educational program for the purpose of character building, through the home, schools, churches, associations and business and fraternal organizations.
- (b) Instruction of the public regarding public health and hygiene and the need for adaptation of the natural but controllable instinct of sex to the environmental conditions resulting from our present manner of communal living.
- (c) Enlightenment of the general public upon the prevalence, method of spread, economic and social loss, serious consequences to the individual and damaging effects upon posterity, of the venereal diseases. This should be accomplished through the appropriate use of all the civic agencies for education and promotion of social relations; and is the peculiar obligation of the medical profession, through the medium of its membership, supporting the efforts of the Division of Health and the Academy of Medicine.
- (d) Improvement and regulation of amusement, entertainment and recreation facilities through playgrounds, clubs, theaters and literary, musical and athletic organizations, by appealing to and developing individual tastes and activities, in addition to stimulating group activities.
- (e) Safeguarding and bettering home surroundings and influences by measures tending to increase home comforts and attractions and better housing and living conditions. Particular stress should be placed upon the encouragement of early marriage and upon such social measures as may be developed to protect and aid children and parents in securing the normal satisfactions of family life. The proper care of the feeble-minded and the discouraging of unwise mating of individuals bear upon the lessening of the number of exposures to infection.
- (f) Warnings to individuals regarding specific sources of infection; and personal instruction to applicants for information concerning the use of

mechanical and antiseptic methods of preventing infection either extra-genital or genital. Measures properly included under this heading are discussed in Section II below, devoted to medical phases.

***Elimination of Environmental Conditions Favoring Dissemination of Venereal Diseases.***

- (a) Elimination of the commercialized aspects of prostitution.
  1. Its advertisement—The best advertisement of prostitution is the red light district or tolerated house open to the public.
  2. Its protection—Such districts or tolerated houses operate in violation of law and cannot exist without official protection, which means corrupt officials.
  3. Its exploitation—The exploiter is the go-between or middleman whose interest it is to stimulate both the supply of and demand for prostitution. Under this head come the illicit activities of procurers, panderers, chauffeurs, bell boys, keepers of hotels, rooming houses and apartments, managers of dance halls, cabarets and other forms of commercialized amusements, who cater to prostitution.
- (b) Repression of the individual activities of men to purchase sexual gratification and of women to sell themselves for this purpose.
  1. Prevention of solicitation for prostitution or sexual gratification by either sex in public places.
  2. Repression of clandestine prostitution in hotels, rooming houses and apartments by passage and enforcement of prohibitory laws effective equally against both sexes.

***Provision and Maintenance of Facilities for Diagnosis, Treatment and Control of Infected Persons.***

- (a) The discovery of infected individuals through laboratory aids to diagnosis, through the maintenance of an advisory clinic, through the stimulation of better diagnostic service by dispensaries and hospitals, as well as through examinations made by the general medical profession in private, public and industrial practice.
- (b) Provision of treatment through the maintenance of dispensaries with adequate equipment and personnel to supplement the service afforded by the medical profession and the enactment of legislation against treatment by unqualified persons.
- (c) Control of infected persons through thorough instruction regarding the venereal diseases by the physician responsible for the treatment of such patients, through the provision of hospital facilities, the quarantine of cases under certain circumstances, the establishment of standards for discharge from treatment and the enforcement of penalties for exposing others to infection.

## II. Medical Phases

### INTRODUCTION—PREVALENCE—SIZE OF PROBLEM

**T**HE frequency with which venereal disease occurs in civil life was realized by but few persons until the United States entered the World War. The country was shocked by the prevalence of gonorrhea and syphilis, as shown by the first draft.

Although this prevalence is recognized, the unorganized defense (until recently) against gonorrhea and syphilis as compared with other communicable diseases makes it impossible to obtain material upon which a positive statistical statement may be based. A conservative estimate, however, can be made to approximate conditions existing at the present moment. Upon these estimates certain positive and constructive plans can be formulated.

Cleveland did some pioneer work in venereal disease control, and has in many respects made much progress. It is reasonable to assume that, in general, Cleveland is no worse nor better equipped to handle the problem than any other American city of its size; nor is the total amount of venereal disease that requires attention greater in Cleveland than elsewhere.

How much venereal disease exists in Cleveland? From army figures we get merely an idea of the amount of venereal disease work to be undertaken, for it must be realized that army and draft board figures do not include boys below twenty-one, men over thirty, nor the women and children. It must be further understood that gonorrhea and syphilis are germ diseases whose mode of transmission is known; that they are found in all walks of life, at every age from birth to old age; and, finally, that they are responsible for many symptoms and conditions classified as diseases other than those generally recognized as or admitted to be venereal diseases.

In the second million men called to the colors in the late war 275 cases of venereal disease were recorded for the 6,189 Cleveland men examined at the camps, or 4.44%. If this rate of 4.44% of the pick of Cleveland's men were found infected, it is reasonable to expect to find at least the same rate among all men of the age group of twenty-one to thirty years in Cleveland now, or a total of 7,637.

Venereal diseases have been reportable but a very short time. False modesty still lingers, and any estimate of the prevalence of gonorrhea and syphilis throughout the United States is necessarily incomplete. In a very few states venereal disease has been reportable for more than a year; in only one, over three years. The figures for the last six months of 1919 are, therefore, a conservative index only of the incidence, and justify us in considering them as a marked underestimation of prevalence. The number of cases of gonorrhea and syphilis credited to Ohio during the last six months of 1919 in the U. S. Public Health Service reports was 7,380. The total number of cases reported to the Ohio State Department of Health for the period of July-December, 1919, was: gonorrhea 4,438, syphilis 3,869, making a total

of 8,307. Of this number there were reported from Cleveland during the same period: gonorrhea 246, and syphilis 497, making a total of 743 cases. During this same period the City Health Division informed the Survey that 911 cases of venereal disease had been reported, which is a smaller number than were cared for by the clinics or were reported to the Cleveland Hospital and Health Survey by the physicians of Cleveland.

In the following table five states and Continental United States as a whole are compared. An equally active anti-venereal campaign, similar to the Ohio State Health Department program, was conducted by each state, except that Ohio had not "pushed" reporting to quite the same degree.

VENEREAL DISEASE REPORTED LAST SIX MONTHS OF 1919

	Population (Est.)	Gonorrhea (Reported)	Rate		S. & G.	
			per 100,000	Syphilis (Reported)	Rate per 100,000	Total Rate per 100,000
Continental U. S.....	106,871,294	92,218	86.	68,963	64.5	150.5
Illinois.....	6,400,473	9,109	142.	5,652	88.2	230.2
Massachusetts.....	3,889,607	4,996	128.	2,348	60.2	188.2
Michigan.....	3,173,089	5,496	173.	3,253	102.4	275.4
Minnesota.....	2,378,128	2,586	109.	1,797	75.6	184.6
Ohio.....	5,335,543	4,003	75.1	3,377	63.3	138.4

The dispensaries of Cleveland treated more than 1,453 patients for venereal disease during 1919. From correspondence with physicians in Cleveland, and from personal inquiries of physicians and nurses in hospitals and dispensaries and of those engaged in health work outside of hospitals in Cleveland, it appears probable that between 8,000 and 10,000 patients in Cleveland are treated annually for venereal infections. There is good reason to believe that there are in any metropolitan community at least as many venereal disease patients that are not under professional medical care as there are diagnosed and under treatment, and there is some good evidence that there are generally twice as many such patients untreated and probably unrecognized as there are under medical supervision. Recalling the careful estimates of such competent students as Dr. Prince A. Morrow (namely, 3% of the population infected), and using the present day information as a further basis of estimating, we may properly offer as a reasonable guess that approximately 30,000 individuals (3.8% of the population) are today suffering from gonorrhea or syphilis in Cleveland. This represents the traffic to be handled in office, clinic and hospital. Cleveland must, therefore, prepare to combat the wastage due to gonorrhea and syphilis, diseases that are preventable by known and proven methods—medical, legal, educational and environmental.

## DIAGNOSIS

The facility for the diagnosis of gonorrhea and syphilis provided through the Health Division laboratory, while probably not sufficient for the full volume of business that can be developed, is meeting the present needs. This is adequate at the moment from the standpoint of technical procedure: the provision of materials, such as slides, Wassermann tubes, etc. The Division of Health, however, seems to be rendering unsatisfactory service from the standpoint of returning reports, as there is considerable complaint about the long period of time elapsing between the sending of the specimen to the Division and the receipt of the result by the physician. The present scheme of utilizing the temporary service of a college student as serologist on a part-time basis is not sound from the standpoint of organization, nor is it productive of a feeling of confidence on the part of the general medical profession.

During the first ten months of 1919 the laboratory of the City Health Division made 525 microscopic examinations for the detection of gonorrhea. During the same period the Wassermann test for the detection of syphilis was performed upon 5,807 specimens of blood. The increase in demand for laboratory aid in the diagnosis of gonorrhea and syphilis has been gradual, but has shown a steady growth, indicating increasing appreciation of the value of the laboratory as a factor in diagnostic procedure.

Private laboratory facilities in the City of Cleveland are adequate. A number of physicians maintain their own laboratories. Many physicians connected with hospitals use the laboratory facility of the institution with which they are connected. Thus, in addition to the work done by the laboratory of the Division of Health, a very considerable number of blood and microscopic tests are done by the hospital and private laboratories. The Health Division laboratory figures can be taken as an index of the volume of private and hospital work that is done in the field of laboratory diagnosis.

There is no supervision nor regulation of private, hospital or commercial laboratories by the Health Division. Laboratories used for the detection and control of communicable diseases must be adequately equipped and staffed with thoroughly competent personnel in order to be of real value to the city.

The so-called "Government Diagnostic Clinic," 64 Public Square, Cleveland, Ohio, is probably responsible for a considerable percentage of the increase in the work done by the laboratory of the Health Division. From September 10 to November 22, 1919, this clinic made a total of 265 examinations of individuals suspected of being infected with either gonorrhea or syphilis. About 216 cases were received from the courts, 39 cases were referred by doctors, and 10 cases came of their own volition because they had heard of the facility. The quarters are adequate for the purposes of a diagnostic clinic and are well maintained; but they are in an old, unattractive building and are inconvenient of access from the street. The loca-

ion on the Public Square is convenient and, with proper publicity, most excellent service can be rendered by such a clinic organized purely as an advisory and diagnostic station.

### RECOMMENDATIONS

It is recommended that the Cleveland Academy of Medicine emphasize to physicians the importance and relative value of laboratory aid in diagnosis, in the control of treatment and as a check before the discharge of patients as cured;

That the Division of Health establish rules and regulations for standards of procedure, equipment and inspection of laboratories offering facilities that have any relation to the diagnosis of communicable diseases. (See page 416.)

That the Division of Health serological laboratory be placed on a sound basis of organization with full time personnel;

That the diagnostic clinic be continued, preferably as a part of the central downtown dispensary. (See chapter on Dispensaries, Part X.)

### TREATMENT

In considering the treatment of venereal diseases we recognize the need for facilities for the very poor, the self-supporting group that cannot finance the additional cost of long continued medical care, as well as the group that can pay the entire cost of treatment. Cleveland, like all progressive communities, has developed dispensaries to cover the need of those unable to pay, and was the third city to establish pay clinics for treating venereal diseases in the group that is normally self-supporting but unable to meet the financial stress of specialized treatment over a considerable period of time. The third evening-pay-clinic established in the United States is at Mt. Sinai Hospital, which is doing an admirable piece of work. One of the largest and best syphilis clinics in the country, conducted under the most unfavorable conditions as far as quarters are concerned, is at Lakeside Hospital. Charity Hospital established a clinic for venereal diseases in September, 1919.

In general, the dispensary facilities for treating gonorrhea and syphilis are inadequate, although the personnel is generally competent, interested and anxious to improve. The patients get good treatment, under conditions (except at Mt. Sinai) that not only make the work of the doctors difficult but also must have a very depressing effect upon the patient. It is not possible to gauge the clinics accurately, because of the inadequacy of the record systems. No definite attempt has been made by the clinics to measure their own efficiency, to determine costs, or to plan for future advancement.

Hospital beds are required in but few cases of venereal diseases. When required, the need for beds for such patients is urgent, frequently as a matter of public health protection.



Hospital facilities for treatment of the venereal diseases may be said to be practically non-existent, as Cleveland still maintains the age-old attitude that gonorrhea and syphilis must not be admitted to a hospital. This seriously handicaps the work of the private physician as well as the work and development of the out-patient department of the institution.

The only available hospital facilities are at the City Hospital, with the exception of almost negligible provision of beds for women at Lakeside in connection with the gonorrhea clinic. The number of beds provided at City Hospital is not sufficient for more than the care of those cases that require control by quarantine because of the patients' lack of ability or actual unwillingness to cooperate in the protection of the public health. There are available for this purpose 75 beds for syphilis and 50 beds for gonorrhea.

It is practically impossible for a venereally infected person, who is willing and able to pay, to be admitted to any hospital in Cleveland for gonorrhea or syphilis in the communicable stages. It is the general consensus of medical opinion throughout the country that patients infected with syphilis or gonorrhea present no problem in hospital administration and medical and nursing services of greater menace to the other patients or attendants in the hospital than do those suffering from such diseases as typhoid, pneumonia, infected wounds, and the like. The latter group of communicable diseases are regularly admitted to the general hospitals without question. The hospital door closed against gonorrhea and syphilis is a relic of the doctrine that venereal disease is the just punishment for a moral transgression, and is not based upon any inherent technical difficulty of hospital management.

It is probable that many cases of venereal disease are admitted to the hospitals of Cleveland under a "camouflage" diagnosis. Cases have been brought to the notice of the Cleveland Hospital and Health Survey in which the individual, because of his environment, such as living in a hotel or boarding house, was unable to follow the advice of his physician, and in some instances was actually put out of his place of abode. It is impossible to care properly for these cases under existing conditions. They are not entitled to admission to the City Hospital because they are capable of paying for their care; and, in spite of this fact, there is no place where they can be provided with the care for which they can pay.

Treatment for gonorrhea and syphilis by private physicians in the city of Cleveland is available through a group of specialists, and of course is carried on by a large number of physicians who are not specializing in venereal diseases. As a result of the questionnaire sent to the physicians of the city, we find the number of venereal disease cases treated by private physicians to be difficult of estimation. 2,060 cases were reported by the 241 physicians that replied to the Survey's questionnaire. A very considerable percentage of patients was reported as having discontinued treatment before having been cured. The reasons given were the usual reasons that are

heard everywhere: "continued treatment at free clinics," "lack of funds," "unwillingness to pay fee," "carelessness," "dislike of treatment," "removal from city," and similar excuses.

Without doubt the medical profession of Cleveland as a whole ranks as high as in any city with an equal number of physicians. The treatment of the disease is oftentimes scientifically outlined, but the patient's individual problem is frequently neglected—his or her economic status, environment, personal feelings, and the like, are given scant, if any, consideration. It must be realized that the average doctor has neglected the social phase of medical work, both as general practitioner and as specialist, in that he has made no attempt to follow up the patient who discontinues treatment.

### RECOMMENDATIONS

It is recommended that all general hospitals change the rules of admission so that there may be no discrimination against venereal diseases, and that pay beds may be made available for gonorrhea and syphilis in any stage of the diseases.

That each hospital that maintains a dispensary for the treatment of venereal diseases organize a special department for the purpose of correlating the dispensary and hospital work in the care of these diseases, and that a definite bed allotment for free, part-pay and pay patients be assigned to the reorganized venereal disease service. The service can be classified in the hospital organization singly, in one unit, as the Department of Venereal Disease; or into three divisions: Urology, Dermatology and Gynecology. In this latter plan syphilis would be assigned to Dermatology, gonorrhea in the male to Urology, and gonorrhea in the female to Gynecology.

That closer cooperative arrangements be developed between the clinics and the City Hospital for the care of indigent and irresponsible cases at the hospital, with more effective methods for the return of these patients to the clinic for after-care following their release from the hospital.

That the City Hospital administration be so improved and supported that hospital city politics will not be able to ruin what can and should be the biggest and best venereal disease service in the city.

That the Academy of Medicine bring to the attention of all physicians of Cleveland the sociological aspects of venereal diseases, and place squarely before the doctor his peculiarly strategic relation to the problem. This might well be done by letters, pamphlets, clinics, meetings and the use of such clinical motion pictures as are produced by the governmental and other agencies engaged in the national campaign for the control of gonorrhea and syphilis.

That private physicians be urged to cooperate in the educational and social protective work which tends to reduce the number of exposures.

That physicians prepare themselves to advise exposed individuals as to means for prevention of infection; and equip their offices and dispensaries with facilities for prophylactic treatment, supervise such treatment when it will be of value, and maintain contact with the exposed person so advised and treated during the period of presumed incubation.

That the Bureau of Venereal Diseases in the Division of Health cooperate actively with the Academy of Medicine in the diagnosis, treatment and control of venereal diseases; and to this end receive the benefit of the opinion and advice of a special committee of the Academy, appointed from among its members, in matters of educational policy and administrative control of patients.

### DISPENSARIES AND CITY HOSPITAL

Cleveland has three dispensaries that maintain clinics for the treatment of gonorrhea in the adult male and syphilis in both sexes and all ages. Gonorrhea in the female and in children is cared for, if cared for at all, in the departments of Gynecology and Pediatrics. No clinic is located in quarters that tend to promote the best effort of the doctors or the most cooperation on the part of the patient. One clinic (Mt. Sinai) has quarters in a remodeled residence that meet the requirements of cleanliness, relative privacy, separate waiting rooms for the sexes, and confidential conference between physician or social worker and patient.

The patients are drawn to each of the venereal disease dispensaries from all parts of the city, and there is a great deal of cross traffic. The location of the clinics is brought to the attention of the general public by means of a large placard posted by the Division of Health in a few public places, such as toilets, shops, and the like.

In general it can be said that good professional care is available at all the clinics, although, under the difficulties inherent in poor and crowded quarters, by no means the best that the physicians are capable of rendering.

### RECOMMENDATIONS

It is recommended that the city be districted and the public toilets located in each district be thoroughly placarded by the Division of Health to call attention to the venereal disease clinics in the district; and that additional publicity be given all the clinics in places such as railroad stations, industrial plants, public toilets, and the like, which, because they are primarily used by people from all parts of the city, will not fall readily into a district plan.

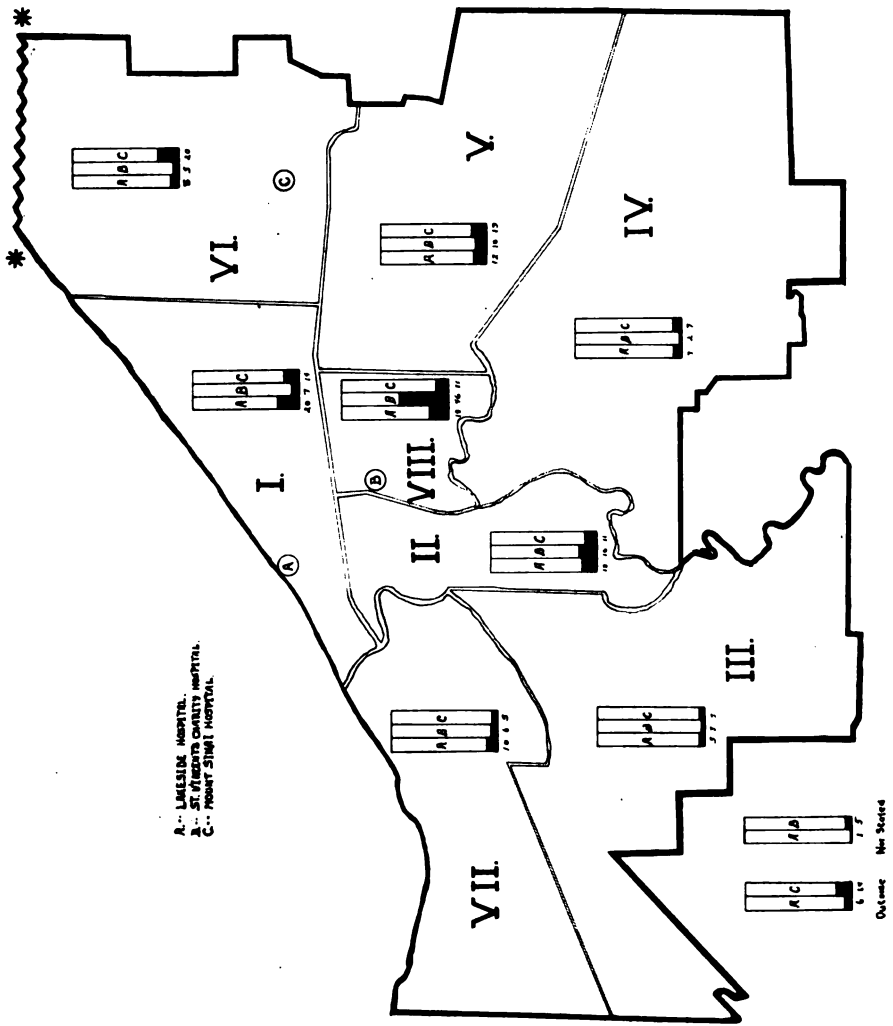
That a new, smaller and more attractive placard be prepared by the Division of Health for this purpose. The number of placards required will exceed 10,000 if complete cooperation of the industrial plants is secured.

That new clinics be established on the west side and southwest side of the city.

That the present so-called "Government Clinic" be developed into a diagnostic and advisory clinic, maintained or closely supervised by the City Division of Health, properly advertised throughout the entire city; that it refer to private physicians all applicants that can pay, and refer to the clinics serving the district in which the patient resides all applicants that cannot pay the private practitioner's fee; that it serve as a center to which the physician may send his patients for diagnostic assistance; and that it be incorporated as part of the proposed central downtown dispensary. (See chapter on Dispensaries, Part X.)

*Chart of Cleveland showing distribution of patients treated at Lakeside, Charity and Mount Sinai Hospital Dispensaries for venereal diseases, according to residence by Health Division Districts. The percentages of patients recorded at each dispensary as living in a given district are shown in parallel bars. The total cases for each hospital, upon which the chart was based, are as follows:*

Lakeside.....	1,062 cases of syphilis
Charity.....	140 cases of venereal disease
Mount Sinai.....	250 cases (Syphilis, 65%; Gonorrhea, 35%)



The narrow eastern end of District 6, extending along the lake shore is not included in this map.

That supervision of the clinics and the establishment of reasonable standard minimum requirements for their equipment and services be undertaken by the Division of Health after conference with the proposed Dispensary Committee of the Cleveland Hospital Council; and that no dispensary (public, private or commercial) be permitted to treat gonorrhea or syphilis unless the requirements are met as certified by the Division of Health. (See page 417.)

That more educational work be done in all the clinics by means of personal interviews, pamphlets, wall placards and similar methods.

That printed material, such as cards, pamphlets, wall charts, and the like, be provided for the clinics by the Division of Health.

#### LAKESIDE

##### *Syphilis Clinic—Day—Men, Women and Children*

A patient who applies for treatment at this clinic must apply at the admission desk in the main dispensary, receive the medical record, walk across Lakeside Avenue to the clinic building, wait in a small crowded room for the opportunity to see the doctors, then visit the social worker, then return to the main building to turn in the medical record and have any prescription filled or receive salvarsan, before being free to go home. This useless consumption of time, and exposure to inclement weather, coupled with the unsightly old wooden tenement that has never been remodeled to meet clinic purposes, is an affront to the self-respect of the patient and a discouragement to the personnel. During the winter months this building is improperly heated and inadequately supplied with water. At times there is no water.

Educational work with the patients for the protection of the individual, the family, and the general public, is well done. The personal relationship between the staff and the patient is excellent, but is maintained in spite of the handicapping conditions mentioned above.

The patients are educated to the great need for treatment continued over a long period of time; and, if they fail to keep their appointments, are requested, by postal card, to return. This failing, effort is made, by home visits, to bring the patient back to treatment. Effort is also made, with considerable success, to bring to the clinic the other members of the patient's family.

Largely due to the personality of the physicians and the social worker, the handicap of poor quarters is overcome and the clinic "atmosphere" is quite human. That the patients are aroused to an interest in their own welfare, as well as in the protection of the public health, is evidenced by the enrollment of 800 cases of syphilis—largely by the "family groups"—under observation and treatment.

*Syphilis Clinic—Evening—Pay*

The general personnel is the same, and similar measures are followed. As this clinic is housed in the main dispensary building, it presents a distinctly better appearance and can be managed more efficiently.

About 400 syphilis cases are registered as under observation or treatment. Compliance by the dispensary management with the simple recommendations of the personnel would greatly increase the efficiency of the clinic and would promote the comfort and convenience of the patients.

**RECOMMENDATIONS**

It is recommended that, because of the existing handicaps inherent in the present quarters, the growth of this clinic be checked; unless the volume of work be taken care of by the increasing usefulness of the other clinics and the opening of new clinics, and the overcrowding be overcome by the separating of the syphilis cases from the dermatological cases.

*Gonorrhea—Male*

The clinic, aside from the actual professional treatment of the "case," in no way meets the requirements of a modern clinic for treating communicable diseases. The quarters are cramped. There is no privacy. No attempt is made to follow up the patients that fail to continue under treatment until no longer a menace to the community. Little or no effort is made to educate the patient regarding his condition for either his own good or the protection of the public health.

*Gonorrhea—Female*

The Gynecological Department treats gonorrhea in women and vaginitis in children, but has only 32 women and about 20 children registered. Recently a social worker was detailed to the clinic. Hospital beds are available, and the method for treatment calls for three or four days' hospitalization. This is the only clinic in Cleveland for women suffering from gonorrhea that provides any bed facilities for its patients. If really active work were done in conjunction with the men's clinic, the women's clinic should be very much increased in its facilities, proportionate to the accommodations of the men's clinic. An excellent public health protection should be available to Cleveland through the Lakeside Dispensary Gonorrheal Clinics.

**RECOMMENDATIONS**

It is recommended that a complete reorganization of the gonorrheal service of the Lakeside Dispensary be undertaken, in order that both male and female patients may receive adequate, humane treatment under conditions that will tend to increase rather than destroy the self-respect of the patients.

That a follow-up system be established.

That adequate quarters be provided.

That the evening and day-time clinics be under the same medical supervision.

That a responsible person be placed in charge of the men's service, and that this physician be the urologist to the hospital and to the dispensary.

That the placards advertising the "pay clinics" be removed from the dispensary, on the ground that they are justly criticised by the medical profession as being too commercial, particularly when considered in conjunction with the general method of organization of the evening pay clinics. These clinics are practically distinct from the dispensary day clinic, and are not under the supervision of the hospital staff.

#### MT. SINAI

*Gonorrhea—Men. Syphilis—Men, Women and Children*

##### *Evening—Pay*

This clinic, located in a remodeled dwelling (semi-detached), is well arranged on two floors, and has separate waiting rooms for men and women. It is well equipped, clean, efficiently and humanely managed. Every effort is made to impress the patient with the seriousness of his condition and the importance of continuous treatment and observation until he is pronounced cured by the physician. Follow-up of patients that do not return for treatment is done by mail, but house visiting is done only in exceptional cases.

The clinic is rapidly outgrowing its present quarters, although it is still possible to maintain a considerable degree of privacy. This tendency to crowding can be met by an increase in personnel and the opening of the clinic every night instead of only three times a week.

#### RECOMMENDATIONS

It is recommended that the service be improved by the addition of a clinic clerk and the use of a social worker, so that follow-up by mail may be re-established and consistently carried out, by using a less cumbersome system of form cards for this purpose and allowing a shorter time interval to pass before follow-up work is begun.

That the clinic be open every night except Sunday in order that it may meet the demand bound to result from the national, state and local campaign for combating venereal diseases.

That a gonorrhea clinic for women be established.

#### ST. VINCENT'S CHARITY HOSPITAL

##### *Gonorrhea—Evening—Male*

This clinic was established in September, 1919, and has grown very rapidly—so rapidly, in fact, that organization has not kept pace with growth. Administration is not smooth and there is no separation of patients in the waiting room by age, sex, or color.

Educational work with patients is not carried out to any great degree, and a full understanding of the function of a modern clinic that deals with a communicable disease, such as syphilis or gonorrhea, is apparently lacking. There seems to be no responsible direction of the clinic by the physician in charge. The staff is irregular in arriving and departing. The great need of a clinic in this area is demonstrated by the growth of this clinic despite the irregular service rendered.

Facilities exist for the development of a modern clinic that would render positive service to the patients in a location of great strategic value for the protection of the community. With more time for organization, with careful study of the problem of clinic management, with better social treatment of the patient by the personnel, and with a definite follow-up system to bring back the patients that discontinue treatment, this clinic can fill an important need of the city of Cleveland—a responsibility not now being met.

#### *Gynecology—Female*

Gonorrhea in women and children is treated in the Department of Gynecology.

#### *Syphilis*

Syphilis in men, women and children is receiving attention in a special clinic, which has possibilities of development as outlined above.

The laboratory facilities are probably adequate, although not used as freely as one would like to see. This is due, in a large measure, to the lack of organization and correlation. The method of collecting blood specimens for the Wassermann test by means of a capillary tube appears to be decidedly obsolete, and the requests for additional specimens seem to bear out this observation.

The follow-up methods are not bad if well conducted. Letters or notices are sent the patients that fail to return. Obviously, three letters a month apart, and then reference to the Health Division for action, cannot be expected to function for the benefit of the patient or the protection of the community.

There has been a falling off in the volume of work done since January, 1920, which we believe can be attributed to the staff personality and method of handling patients, as well as to the irregularity of time of arrival and departure of the doctors. The "floating" population, the clinic hours, the poor arrangement of rooms, lack of system and long periods of waiting are all contributory factors.

#### **RECOMMENDATIONS**

It is recommended that better management be instituted.

That gonorrhea in women be given proper consideration; and,

That, because of the present need and the indicated future growth, the clinic be open six nights a week.



### CITY HOSPITAL

The venereal disease service of the City Hospital has never been entirely satisfactory. Gonorrhea in both male and female has been neglected, and the importance of the urologic and gynecologic services has not been recognized or developed to a degree at all commensurate with the city's responsibility in caring for the individual.

It is estimated that about 150 beds will be required in making adequate provision for the venereal disease patients; and this must receive consideration in the plans for the reorganization of services and rebuilding of the City Hospital. In general it may be said that, while the syphilis service as maintained prior to its discontinuance during the recurrence of influenza in February and March, 1920, was excellent, and the quarters in which the department of dermatology was housed (in a remodeled and repaired building) are the best, in the present City Hospital marked improvement is required to make the most of the possibilities. In other words, nothing short of a new building will make it possible to provide the type of venereal disease service that the City Hospital of Cleveland should maintain.

Gonorrheal service for women can be rated as only fair, because it varies with the different services; while the gonorrheal service for men is not satisfactory and is, as a matter of fact, neglected, if not ignored.

It is recommended that for the sake of the future development of venereal disease service, a definite plan of procedure free from any consideration of professional jealousy or controversy on the part of the staff and management, be put into effect. Two possible plans may be considered: one a venereal disease service, caring for all cases of gonorrhea and syphilis in both sexes of all ages, under one member of the staff acting as chief of a major hospital service, with a corps of associates especially trained in the various subdivisions of venereal disease treatment, plus a cooperative arrangement for consultation service with the other departments of the hospital organization; the other a three-headed service, with syphilis assigned to dermatology, gonorrhea in the male to urology, and gonorrhea in the female to gynecology. In this second scheme of organization the department of dermatology as now organized should continue to function in its present efficient manner. The urologist and gynecologist must have a full service under the surgical division of the hospital organization. These services should be continuous throughout the year. The appointees should be definitely charged with the responsibility of caring for all cases of gonococcal infections, both acute and chronic, in their respective fields, and at the same time charged with the care of the surgical work properly falling within the domain of the special divisions of urology and gynecology.

### DIVISION OF HEALTH

Six years ago the Division of Health outlined a campaign for the control of the venereal diseases. One of the things proposed under this campaign was the establishment of a special bureau to devote its energies to educa-

tional and medical work and particularly to the reporting of cases. This bureau was never established; reporting has not been stimulated or enforced; and it is found that little work along educational lines has been attempted. The only Division of Health activity is the laboratory facility mentioned as a special topic under Diagnosis.

During the war certain renewed activity was stimulated by the United States Government and the State Board of Health. Advantage should be taken of the public sentiment then developed, and the continued national campaign should be used as the foundation upon which to base the future activities of a special bureau of the division. This can be done in such a manner that the confidence of the medical profession will be regained and retained. The general public not only needs but will welcome educational information. The only educational material used in the city at present is provided by the State Health Department.

Theoretically, one of the important functions of the Division of Health in controlling exposure to syphilis or gonococcus infection is to warn individuals regarding specific sources of infection; but few of the practical procedures worked out for other infections are applicable to the venereal diseases, and such special measures as are being tested out for the latter are thus far limited largely to what may be accomplished by the private physician and through tactful social service follow-up among the families and intimate associates of infected individuals. Again, personal instruction of individuals likely to be exposed is of great importance. The pupil nurse, for example, who is about to assist in an operation or care for an active case of syphilis should be instructed in mechanical and antiseptic methods of preventing infection of herself or others. It is not difficult to train her to wear rubber gloves, to wash her hands thoroughly with soap and water, to avoid touching her eyes or lips with her hands, and to use such antiseptics as may be designated. In theory it is just as possible to instruct individuals to employ similar methods for avoidance of genital infection. In practice, however, the health officer as well as the physician finds himself confronting the facts that genital exposure to venereal infection is not consciously risked within marriage, and that exposure outside of marriage is not sanctioned under any conditions by American public opinion or by law. Consequently, to undertake popular education for individual prophylactic measures presents the dilemma of over emphasizing the importance of what is a relatively small number of cases of exposure in wedlock, or of admitting a very large number of violations of law and public standards of morality by illicit intercourse.

Scientific knowledge exists upon which have been based useful military measures for promptly cleansing exposed surfaces and membranes of the body and applying effective antiseptics.\* As a part of a general administrative program in the army, where all the men can be required under mili-

\*The essential factors in the procedure generally known as "medical prophylaxis" are: the application within a short period of time after exposure (preferably within an hour) of mechanical cleansing of exposed parts with soap and water; the administration of an antiseptic solution to the urethral and vaginal mucous membranes for protection against gonorrhea; and the application of a germicidal ointment for protection against syphilis.

tary regulation to carry out instructions given them, and where every man must be taught the purpose and relative importance of each measure in the entire program, so-called "medical prophylaxis" has its place. In civil life to achieve the same results even among those who could be reached, it would be necessary for physicians and clinic chiefs to advise with individuals, who apply to them immediately after exposure, to provide adequate supervision of the prophylactic treatment recommended and to keep in touch with each individual until all danger of infection is passed.

The difficulties of securing such administrative efficiency, and the dangers of stimulating undue dependence upon prophylactic measures officially recommended, have prevented the development of practical prophylactic measures of general public health importance. Furthermore, the promulgation of such measures has been constantly met by opposition from those who earnestly believe that popular education concerning the methods and the places where such preventive treatment may be administered, would be interpreted as public sanction for greater sexual promiscuity, at the same time diverting popular attention from the larger and more effective preventive measures of the program. It is believed that prophylactic measures of this character are of relatively slight practical importance in civil life. It should be stated in this connection, however, that this applies only to prophylactic measures for genital exposures, because popular opinion holds that it is reasonable to demand that individuals protect themselves through the more effective and morally far more desirable measure of avoidance of any exposure through sexual contact. In contrast, public opinion fully supports and laws demand prophylactic measures for prevention of the development of gonococcus infection of the eyes of new-born children exposed by passage through the infected birth canal of the mother.

### RECOMMENDATIONS

It is recommended that the Division of Health establish a special bureau in charge of a full-time medical officer, with the needful number of assistants (such as nurses, clerks, etc.), to conduct properly a comprehensive campaign for the eradication of gonorrhea and syphilis. The duties of such a bureau should be the organization, the supervision and the stimulation of treatment facilities; the returning to treatment of those patients who fail to continue under medical care until cured; the education of the public upon the methods of contraction, spread, control, prevention and treatment of venereal diseases. The duties of the chief of this bureau in completing a comprehensive program would preclude any clinical work, either private or public. In order to gain the absolute confidence of the medical profession, he should have had clinical experience in the treatment of the venereal diseases, and he should not be required or permitted to do clinical work. The following plan of organization for the venereal disease bureau of the Division of Health is suggested:

PROPOSED ORGANIZATION FOR VENEREAL DISEASE BUREAU OF THE  
DIVISION OF HEALTH

- 1 Chief (full-time physician).
- 2 Nurses (female).
- 1 Agent (male).
- 1 Stenographer.
- 1 Clerk.

The function of the special bureau of the Division of Health devoted to the combating and control of the venereal diseases should be primarily educational—education of the public upon the general subject of prevalence, mode of transmission, serious consequences of gonorrhea and syphilis, and the necessity for prompt and continuous treatment. This educational work must reach all classes and ages in the community, directly or indirectly, through lectures, the use of motion pictures, stereopticon slides and pamphlets and other means of printed publicity.

Special educational work is required to reach the physicians, not only for the purpose of arousing their interest as members of the community in the campaign for the combating of venereal diseases, but also to develop the professional appreciation of the necessity for better diagnosis and more conscientious, continued treatment. An active campaign along strictly professional lines should be conducted by the Division of Health in cooperation with the Academy of Medicine, using as the vehicle, existing motion picture films upon the modern diagnosis and treatment of gonorrhea and syphilis, supplemented by such printed material as is available or may be produced.

An efficient campaign of this character will stimulate the reporting of gonorrhea and syphilis, which has been neglected in the past. The administrative function of the Division of Health, Bureau of Venereal Diseases, should include the education and stimulation of the hospitals of Cleveland to an appreciation of the necessity for bed treatment for selected cases, the inspection and supervision of dispensaries treating gonorrhea and syphilis, and the stimulation of the clinics to improve continually the existing facilities. Material assistance can be rendered to dispensaries in various ways, and the City Division of Health should act not only as the stimulating agency but should also assume the function of intermediary between the local clinic and the state and federal health authorities. The state subsidy, both in the form of financial aid and of free arsphenamine, should be received by the department and distributed to the approved clinics. The reports from the various clinics can be consolidated for forwarding to the proper authorities. Provision for examination, diagnosis and treatment of cases requiring control should be made by the City Division of Health. Quarantine of those individuals unwilling or unable to protect the community must be assumed by the Division of Health, and its facilities should be so adjusted that they may be available for the private practitioner, clinic, hospital and the court.

Various social measures come within the function of the Venereal Disease Bureau of the Division of Health through its close cooperation with courts, clinics, physicians and the organizations represented in the Welfare Federation. A standard method of follow-up should be developed, and it is recommended that some series of forms similar to that suggested in the following recommendation be used for both publicly and privately treated individuals. Full use should be made of, and thorough cooperation given by the Division of Health to the social service machinery of the city, whether this be through a central organization serving all the hospitals, clinics and physicians of Cleveland, or through the social service departments of the individual institutions.

The duties of the chief should be to direct the general activities of the bureau, to inspect the diagnostic and treatment facilities throughout the city, to stimulate greater activity and improve the efficiency of all the agencies engaged in the combating and control of the venereal diseases, to maintain close cooperative arrangements with state and federal agencies, both public and voluntary, and, finally, to institute such new procedure as may be required from time to time.

The duties of the nurses should be to aid and inspect follow-up work, to assist in the transferring of patients from hospital to clinic or vice versa, to cooperate with the probation officers, and to assist in the various activities connected with the work of the courts.

The duties of the agent should be to placard the city, check drug store prescribing, investigate the advertising and non-advertising medical charlatan, and carry on such other activities as call for the services of a non-medical male employee.

The duties of the stenographer and clerk should be the ordinary activity of routine office work.

The Division of Health should prepare and provide the printed material for educational and follow-up work required by dispensaries that treat venereal diseases. Details of a follow-up plan are outlined below:

#### FOLLOW-UP

To control the spread and prevent the future development of disastrous sequelae of gonorrhea and syphilis, continued effort must be made by the Division of Health, physicians, clinics and drug stores, to the end that the patients understand the necessity for uninterrupted treatment and observation until pronounced cured by the physician. This can be accomplished by the judicious use of educational material, such as public lectures, pamphlets, posters, and the like, coupled with the institution of the most modern therapeutic procedures in clean, orderly and generally well-maintained treatment quarters—all coordinated with broad human understanding by a trained physician, who, realizing his responsibility, carefully explains to each patient, at the first visit, the serious nature of the complaint and emphasizes the necessity of conscientious, continued treatment.

Some infected individuals need to be brought to a forceful realization of their personal or public responsibilities with regard to communicable diseases. For their benefit the Division of Health must be prepared to meet their own responsibility and, in cooperation with the physician in either his private practice or clinic service, should arrange methods of varying degree for the purpose of again placing the delinquent patient under treatment.

A simple "request" card has been found efficient in a number of clinics, and has also been used by physicians in their private practice. These cards are sent out in sealed envelopes as first class mail.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Mr. ....

..... No. ....

You are requested to return on or before .....

You were not cured at your last visit.

You need further treatment or observation.

For your own good and the protection of others this card is sent to you.

Kindly answer this note.

..... M. D.

Upon receiving no response to these calls for more active measures, the following form is suggested:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Mr. ....

..... No. ....

You were requested to return on or before .....

Will you return on .....

You were not cured at your last visit.

You failed to keep this appointment or to notify us in any way. If you are under competent medical care, we are satisfied. Failure to notify us of your present arrangements for medical care will force us to report you to the Division of Health.

For your own good and the protection of others this card is sent to you.

Kindly answer this note.

..... M. D.

The third form should be a final notice that, unless the individual return for treatment, his or her name and address will be reported on a certain date to the Division of Health, in compliance with the law. Two extra blanks will be required for reports to the Division of Health: one for the physician to report his patient under treatment elsewhere, and one to report failure of his patient to return for treatment.

Any efficient plan for holding individuals to prolonged periods of treatment and observation requires that patients be educated to the end that they understand the need for continued treatment; the advisability of notifying the doctor when unable to keep an appointment; the real power possessed by the Division of Health; and, finally, the likelihood of action by the clinic or physician should circumstances demand force.

Equally necessary to make any "follow-up" notification efficient is the proper timing of the notices. The first notice ought never to be delayed more than a week after the first neglected appointment; the second notice must go out, if it is to carry weight, on the day of the unkept new appointment; and the third highly official notice should be timed for not more than a week later. The Division of Health, upon receipt of notice of discontinuance of treatment, should begin official action by sending its inspector promptly to visit the patient for the purpose of persuading the individual to return to treatment. If the patient does not respond to persuasive methods, quarantine or isolation should be enforced.

The Division of Health should establish rules and regulations prescribing minimum requirements for the conduct of dispensaries that treat gonorrhea and syphilis. (See page 417.)

The Division of Health should be guided in its activities by an advisory council or committee on venereal diseases, appointed by the Commissioner.

#### RULES AND REGULATIONS GOVERNING THE CONDUCT AND MAINTENANCE OF LABORATORIES

Rules and regulations governing the conduct and maintenance of laboratories that offer facilities for the diagnosis of gonorrhea and syphilis should be formulated by the Division of Health. These rules should apply in general to the entire field of infectious diseases. The lack of supervision by the Division of Health over private, hospital and commercial laboratories is undoubtedly a weak link in the general problem of venereal disease control.

The Sanitary Code should have a section stating that all laboratories in Cleveland that offer facilities for the diagnosis of communicable diseases shall not be conducted or maintained without a permit issued by the Division of Health, or otherwise than in accordance with the regulations. The regulations should provide for:

1. Applications for permits to conduct and maintain laboratories.
2. Duly qualified persons to be in charge.

3. Proper handling of specimens received at the laboratory by a method of numbering and designation that will definitely establish the identity of each particular specimen in order that errors may be avoided.
4. Proper records covering the following points:
  - (a) Laboratory number and date of receipt of specimen.
  - (b) Name and address of the person from whom the specimen was taken, or some symbol possible for identification.
  - (c) Name and address of the person to whom the report of the result was made.
  - (d) Finally, the result of the test.

The records should be available for inspection by the duly authorized Division of Health representative.
5. Establishment of reasonable minimum requirements in order to safeguard the provision of adequate facilities for the proper performance of the test undertaken by the laboratory. In line with this should be some definite recognition of a reasonable method of procedure.

#### RULES AND REGULATIONS GOVERNING DISPENSARIES

Rules and regulations should be formulated under the Sanitary Code to govern dispensaries wherein communicable diseases are treated or diagnosed; that they shall not be conducted and maintained without control and supervision of the Division of Health. Rules governing the conduct of dispensaries for the treatment of persons afflicted with syphilis or gonorrhea may be divided into two divisions:

#### *Syphilis*

Regulations for the treatment of syphilis should provide for:

1. A special department that shall be responsible for the care of all individuals that come to the dispensary infected with syphilis, with the proviso that when the nature of the part affected requires treatment in some other department of the dispensary, treatment may be given jointly by the two departments.
2. Microscopic examinations of suspected lesions by the syphilis department.
3. Laboratory facilities for making Wassermann tests in the dispensary, or the use of the Division of Health laboratory or other approved laboratories.
4. Prompt, intensive treatment, by the use of salvarsan, mercury, or other accepted means of treatment in sufficient quantities in all cases of syphilis. In order to fulfill the public health function, the clinic must be made to appreciate its obligation to render an infected person non-communicable at the earliest possible moment.



5. Regulation of the number of patients to be treated, in order to overcome crowding and the reduction of efficient service to the patient and, therefore, to the community. From experience throughout the country, it is generally conceded that the maximum number of patients to be treated by a clinic should be limited and not exceed ten an hour per physician.
6. Complete and adequate records. These are of primary importance to the successful conduct of a dispensary, and should be, in so far as possible, standardized and made available for the approved clinics.
7. Maintenance of a follow-up system according to a plan approved by the Division of Health, in order to insure regular attendance.
8. A standard procedure providing for the discharge of patients, to include test and subsequent observation.
9. Having dispensaries open at least three days a week, preferably during evening hours on at least two days.

#### *Gonorrhea*

Regulations for the treatment of gonorrhea should provide for:

1. Systematic microscopic examination of all discharges in every department of the dispensary wherein any person is treated.
  2. Provision for and employment of proper facilities for asepsis and antisepsis.
  3. Facilities for urethroscopic and cystoscopic examination to be regularly employed by the physicians in attendance.
  4. The use of complement-fixation test for gonorrhea. It is deemed advisable to recommend this, although this test is not as yet thoroughly established in medical practice.
- 5, 6, 7, 8 and 9 are the same as for syphilis.

### III. Legal Aspects

**T**HIS Survey is concerned not only with what Cleveland is doing and should do to detect, diagnose and treat venereal disease, it is even more vitally concerned with what Cleveland is doing and should do to prevent, detect, diagnose and treat sex delinquency, as the cause of venereal disease.

The analogy is a fair one, because prostitution and other forms of sex delinquency are certainly diseases of society and require the application of the best social science for their amelioration.

Laws relating to sex delinquency follow the outlines of the average medical text book. They define and name each disease or offense, provide sanitary measures in the shape of decent environments, describe the symptoms of each disease in terms of human conduct, provide for the early detection of those symptoms by the police, the diagnosis in the verdict of the jury, and the treatment in the sentence of the court.

Much other machinery necessary in one or the other of these processes, such as prosecutors, probation officers, psychiatrists, jails, detention houses, reformatories and feeble-minded colonies, require the sanction and support of laws to operate.

It is fairly obvious, therefore, that a consideration of the laws on this subject is of first importance.

The Legal Section of this Survey will attempt to cover Cleveland's laws on sex delinquency and some of the machinery for their enforcement.

The relation of sex delinquency laws and their enforcement to venereal disease is the relation of cause and effect in the inverse ratio. This is true, because the aim of such laws is to prevent sexual relations outside marriage, and such relations are known to be the immediate or ultimate source of most venereal disease.

If we could devise 100% perfect laws prohibiting extra marital relations, and have them enforced with 100% efficiency, venereal disease would after a while disappear.

No community has been found, however, and probably none will ever be found in this country, willing to undergo the paternalistic supervision and make the sacrifice of personal liberty, necessary to accomplish this result solely by repressive measures.

Religion and education will and should be relied upon to penetrate and influence the more intimate and private lives and standards of the people.

The sexual conduct of the individual becomes a matter of public concern and therefore of legal regulation, only when it seriously affects the sanction of monogamous marriage, or the integrity of the family, or the public health.

From all three points of view, the most serious menace to the public welfare in sexual conduct, is promiscuity. From the public health point of view promiscuity may fairly be said to cause the vast majority of all venereal disease.

That female is the most dangerous of sex delinquent women who is most promiscuous, because she is most likely to be diseased and to transmit disease, and this regardless of whether she demands money or its equivalent or not.

Similarly, the male who most frequently consorts with promiscuous females is the most dangerous of sex delinquent males. In fact, this type of male is probably a greater menace to public health than the promiscuous female, because he is the immediate source of many infections of innocent wives and children, in addition to infecting the other women with whom he consorts.

It was because prostitutes have always been the most promiscuous persons of either sex that laws aimed at their activities and the activities of the third parties who promoted or exploited prostitution have been passed nearly everywhere in this country and have found a large measure of public support.

While the enforcement of such laws has eliminated red light districts and open houses of prostitution, and has greatly reduced the total number of contacts of prostitutes and, consequently, the amount of disease that they spread, these laws have yet failed to accomplish the results which we have a right to expect from the expenditure of so much time and money on their enforcement.

The reason is not far to seek. Until 1919, when a standard form of law on this subject was prepared and presented to the legislatures of the several states by the Federal Government, prostitution was, with few exceptions, an offense for which a female only could be held guilty.

Generally speaking, also, the acceptance of money by the prostitute was a necessary ingredient of her offense.

It is axiomatic that, as long as men can with impunity buy such services from women, there will always be found women, foolish, ignorant or lazy enough to adopt this apparently easy way out of life's difficulties.

Furthermore, as the life of the professional prostitute becomes more and more hazardous, many of them are forced to go to work, and the amateurs are retaining their jobs for the same reason. Under the disguise of honest working girls many such women are supplementing their incomes, or securing the luxuries which they think are necessary to them, by building up what they fondly believe to be a select clientele.

They are careful when taking a new customer not to ask for or take money. They very often accept gifts of jewelry or wearing apparel, theatre parties or expensive meals, either as a test or as a real quid pro quo.

How far the activities of such amateur prostitutes make up for the reduction in the activities of the professionals no one knows. The doctors testify, however, that a large number of their men patients claim to have been infected by such amateurs.

It became obvious, therefore, if further progress was to be made, that the definition of prostitution would have to be enlarged to include all males whose payments make prostitution possible, and all males and females sexually indiscriminate, even though the element of hire, which usually exists in some form, could not be proven.

Following the recommendation of the Federal Government in this regard the legislatures of eleven states, in 1919, remodeled their prostitution laws. Ohio was one of these eleven states, and has therefore had since June 21, 1919, the best law on prostitution (except for paragraph C under subsection 7) that sound social experience has yet been able to devise. This law amends Section 13031 of the General Code by adding seven new subsections, 8 to 19, inclusive.

This law not only attempts to reach all promiscuous sex delinquents but sharpens and renders more serviceable the legal weapons against the third parties to prostitution, particularly the taxicab chauffeur, that most modern and elusive of go-betweens.

It is suggested, however, that paragraph C of subsection 17 of this law be amended to read as follows:

The name and place of detention of any person charged with a violation of Section 13031-13 of the General Code shall immediately be reported in writing to the district or city board of health by the department making the arrest.

No person so charged shall be discharged from custody on bail or otherwise until 12 hours after the receipt by such district or city health board of the name and place of detention of such person so charged.

It shall thereupon be the duty of such district or city health board to determine forthwith whether there are reasonable grounds for believing that such person is infected with a venereal disease, or has been exposed thereto.

If such district or city health board shall determine that such reasonable grounds exist, it shall be the duty of such board to cause such person to be examined immediately for such venereal disease, by a physician competent to determine the existence of such disease.

In order to make the findings above outlined, the district or city board of health shall have the power to detain any such person so charged for a period not exceeding 48 hours, after expiration of the 12 hours following the receipt by such board of the notice from the department making the arrest.

Any such person found to have a venereal disease in an infectious form shall be treated under quarantine, at a clinic, or otherwise, as such district or city health board may determine shall best protect the public health.

Such infected person shall pay for such treatment, if able to do so, but if not, such medical treatment shall be at the expense of the municipality or county.

The purpose of this amendment is to separate the detection, diagnosis and treatment of venereal disease, from the detection, diagnosis and treatment of delinquency. Experience has shown again and again that police and courts are confused and diverted from the solution of the problem of delinquency with which they are charged, by imposing medical or quasi-medical duties upon them. Furthermore, this mixing of venereal disease and delinquency is not in the best interest of public health.

Under this act, as it now exists, the judge can have in many cases no basis for issuing or withholding the order for medical examination. This basis is, as suggested in the proposed amendment, a reasonable ground for believing that the defendant is infected or has been exposed to infection. The mere fact that the defendant is charged with a violation of Section 13031-13 would be wholly inconclusive in many cases from a legal point of view.

Suppose the defendant was charged with soliciting, procuring or transporting for prostitution—all offenses which do not involve proof of sexual contact to constitute the offense. In the exercise of his discretion, the average judge might well conclude that no justification exists for compulsory examination in such cases, whereas the physician would see on the faces of many such defendants the clinical evidence or stigmata of their disease. Furthermore, evidence of exposure to disease, which has no bearing whatever on the defendant's guilt or innocence of the crime charged, could be heard by the health authorities, but not by the courts.

It is believed, therefore, that some such procedure as that suggested in the proposed amendment would much better serve the interests of both courts and health departments.

There is one type of disease, however, that is known to have a direct and vital bearing upon delinquency, and that is mental disease.

So many careful and authoritative studies have been made of this relation between delinquency and mental defectiveness that it may be taken as settled that from 20% to 50% of sex delinquents are mentally defective, and will not be benefited by the ordinary dispositions of such cases made by the courts.

The law for the diagnosis and treatment of mental defectives should be amended so as to make available to every Cleveland court, juvenile and adult, which handles sex delinquent cases, competent and adequate psychiatric service for the routine mental examination of all such delinquents, prior to sentence by the court.

Unless this be done, Cleveland may expect to see a procession of non-reformable sex delinquents returning again and again to its reformatories, and see its probation officers struggling vainly to control the conduct of

feeble-minded prostitutes who are spreading disease broadcast, and who would never have been put on probation had their true mental condition been known.

The older penal statutes of Ohio go still further and prohibit couples from indulging in habitual fornication or adultery. To the extent that such couples remain true to each other and avoid promiscuity, they may be said not to constitute a serious public health problem.

Ohio also has the injunction and abatement law, which enables the prosecuting attorney or any citizen of the county to enjoin perpetually the use of any property for purposes of lewdness, assignation or prostitution, and abate the same as a public nuisance. (Approved March 30, 1917.)

This law exists in 39 other states and has been found extremely valuable in preventing unlawful use as houses of prostitution, of hotels, rooming houses or apartments, against whose owners, managers, or lessees it was difficult or impossible to prove violations of the criminal laws.

Such owners, managers or lessees of property have often been so politically intrenched that officials have not dared to move against them. For this reason the provision in such laws that individual citizens could bring such injunction and abatement suits has been found particularly valuable.

It is in this last provision that the Ohio Injunction and Abatement Law is defective. The Ohio legislators, in an apparent desire to protect property owners from frivolous suits, have so hedged about the right of a citizen to bring such suits with burdensome and unnecessary restrictions and penalties, as to operate as a practical prohibition of this sort of activity by a private citizen in the public interest.

Experience in all other states, whose laws do not contain these restrictions, proves conclusively that they are unnecessary and that the fears of the Ohio legislators were groundless.

It is suggested, therefore, that section 3 of this law, approved March 30, 1917, be amended by omitting the last half of the section, so as to read as follows:

Whenever a nuisance exists the attorney general of the state, the prosecuting attorney of the county, any person who is a citizen of the county, or any organization of citizens of the county may bring an action in equity in the name of the state of Ohio, upon the relation of such attorney general, prosecuting attorney, person or organization to abate such nuisance, and to perpetually enjoin the person or persons maintaining the same from further maintenance thereof.

The laws against so-called White Slavery, Keeping Disorderly Houses and Rape appear to be adequate. The "age of consent" law should be amended to protect young boys as well as girls under 16, and more protection should be given to mental defectives generally. It is believed, however,

that the best protection to such mental defectives is afforded by laws which provide for early registration, and supervision inside or outside institutions, of this class of individuals.

Cleveland's ordinances providing licensing and supervision of commercialized amusements, such as dance halls and pool parlors, are well in the van of such legislation, particularly the one relating to pool parlors. The state law for the licensing and supervision of hotels (defined to include most transient rooming houses) and restaurants is adequate. It would help if this law could be extended to apartment houses. There should be, however, a law or ordinance providing for the revocation of licenses of chauffeurs who agree to act as go-betweens for prostitution.

This study of the laws indicates that Cleveland, in the main, is legally well equipped for the prevention, detection and diagnosis of delinquency, except in cases of mental defectives. Let us turn to a consideration of the administrative machinery for carrying out these laws.

### ADMINISTRATION

The real functions of police and courts are, in the modern view, the prevention and cure of crime and delinquency. The old emphasis on detection after the crime was committed, and punishment as a satisfaction to society is giving way to a more intelligent and humanitarian doctrine. Cleveland has in its ordinances for licensing and supervising commercialized amusements, and in its state law treating hotels, transient rooming and boarding houses and restaurants in the same manner, legislation of this preventive character. The inspection of these different sorts of places is scattered among several departments, such as the Mayor's inspector of dance halls, the Director of Finance's billiard hall inspector and the hotel inspectors of the State Fire Marshal.

These laws and ordinances all provide for the revocation of licenses or closing such places for disorderly or immoral conduct on the premises.

If the previous recommendations regarding licensing and inspection of apartment houses and chauffeurs are adopted, there will exist two more types of inspection to be made with inspectors probably from one or more departments. It is believed that much of this routine inspection could be covered by a special women's bureau of the police department, with economy to the city and state and with advantage to the public welfare in the prevention of crime.

The officers of this bureau could be deputized by the departments now charged with this duty, if by reason of the other structural and technical points to be covered by such inspections, it is not deemed wise to turn over the entire inspection to this women's bureau.

Such a bureau, having access to police information and becoming acquainted with criminals and delinquents, would be in a much better position to prevent such places from becoming the resorts of disorderly characters than could the inspectors of departments not so acquainted with the *underworld* of a large city.

Such women police could also protect girls who are employed at such places by insisting on the establishment and maintenance of proper rules and regulations. In addition to these inspection duties, experience in many cities where women police are employed has proven their value as street and park patrols, and in the investigation and adjustment of all sorts of home and employment conditions of girls who are either delinquent or in great danger of becoming so.

Finally, there exists in many cities, including Cleveland, a hiatus in official case work with girls, between purely protective work and probation work. The Cleveland Municipal Court Act (Sec. 1579-50) provides, for instance, that probation officers "shall devote their time to the interests of persons placed on probation." The girl who has been arrested for a sex offense in this court has no one officially interested in her, until she has been tried, convicted and sentenced. When she has at last arrived at this stage in her travels through the legal machinery, she is apt to be hardened or bitter, and experience shows that she is infinitely more difficult to influence and handle then than immediately after her arrest.

A sympathetic and intelligent woman police officer, with social experience, can learn the truth from such a girl, investigate her environment, shield her from unnecessary repetitions of her story and bad associations pending trial, see to it that she is mentally and physically examined, and be of infinite value to the prosecutor and judge in the trial and disposition of the case. She may even, as is done in one large city, prevent a charge being filed against her if, after informal consultation with the prosecutor and the judge, such a course seems best for the girl and society.

It goes without saying that on the personnel of such a bureau everything depends. To secure the right type of women it would be necessary to pay the chief inspector at least \$2,000, and the others from \$1,200 to \$1,800.

It is our opinion that most harmony and efficiency will result if this bureau is made a part of the police department, responsible to its chief. The contact with the delinquents would be much closer thereby, and no jealousy between the men and women police officers need result, if it is made clear from the beginning that all credit for arrests belongs to the men and that the women derive their credit from the amount of real help they can give.

Further details concerning such bureaus can be learned from the head of one of the most progressive and effective of them, in Washington, D. C.

If it be argued that much of this work is now being done in Cleveland by the private unofficial Woman's Protective Association, and that, therefore, such a woman's police bureau is not needed, our answer would be:

*First*—That in proportion as such private organization has shown its necessity to the police and courts, in that same proportion has it proved such service to be a legitimate responsibility of government.



*Second*—That, having demonstrated the need, and blazed the trail, such private organization should insist on the city paying its own way, and should assist the city in getting such a bureau well organized, and see to it that it functions in accordance with the best and most approved methods.

Using this modern conception of the function of police departments, that they aim at prevention as well as detection of crime, it is suggested that the test of their efficiency lies not in the number of arrests and convictions (the usual form of report made), but in the relation which such number of arrests and convictions bears to the whole number of offenses committed.

This test is easily applied to crimes which become public, such as murder, burglary, etc., or even to all minor offenses concerning which complaints are filed.

Even as to such offenses, however, the reports of the police departments rarely bring out the deadly parallel. A real difficulty confronts us when we try to apply the test to sex offenses.

These offenses differ from offenses against the person or property in the fact that the danger to the public, while more serious, is less apparent, so that the public rarely and the individuals most directly concerned never file complaints. The police could not, therefore, if they wished, apply this test to their efficiency in preventing and detecting sex offenses.

The fact, therefore, that the Cleveland police department has not issued a report for six years is of less importance to this survey, than would at first seem probable. There are two remedies for this situation, both of which have proved successful.

1. Educate the public to make complaints.
2. Form a committee of citizens, whose duties shall include vice investigation.

The citizens of one large camp city, during the war, were so educated to the necessity of protecting the troops, that the Vice Squad spent its entire time investigating complaints filed by patriotic citizens. New York, Chicago, Minneapolis, San Francisco, Los Angeles and many other smaller cities have adopted the second alternative and maintained a committee with investigators to check up the work of its departments and to take the place of the reluctant public in filing complaints. The second alternative is believed to be the best, because while working gradually to bring about the first (a slow and laborious process in peace times), it can secure immediate results from the police and greatly strengthen and coordinate all the various municipal departments which handle this problem.

It can strengthen these departments by interpreting them to the public and the public to them. It can also help them to get needed legislation, appropriations and the right kind of personnel.

It can coordinate them by helping to bring about team work in government. In our government system of checks and balances, there often develops a tendency to "pass the buck" from one department to another.

things go wrong and crime increases, the police and the courts blame each other and the prosecuting attorney, while the latter shifts the burden to the other two. An intensive comparative study of records and methods, by an impartial organization, will reveal the weak links in the chain. Tactful and constructive criticism given privately to the departments at fault will often serve to remedy conditions. Conferences arranged between department heads with the secretary or a member of the citizens committee, acting as liaison officer, may remove the friction. As a last resort the public can be informed and the pressure of public opinion applied.

We desire to make two recommendations in connection with court administration. These are the establishment of a Woman's Court and a finger-print system for all convicted sex delinquents. The essentials of a woman's court are the trial of all women sex offenders in a separate court, or at least a separate period of the day, by one judge, and the exclusion of everyone from the trials who cannot show a legitimate interest therein. The advantages of such procedure are the development of expert knowledge by the judge, a consistent judicial policy and an immense improvement in the dignity and efficiency of court procedure.

The finger-print system for convicted sex offenders is of the utmost value to the judge in his disposition of cases. Repeaters constantly give false names and often escape identification without such a system. As above indicated, the test of court treatment is the proportion of offenders who repeat. This test cannot be applied without an infallible system of identification. The finger-print system is the only one that is infallible. Constructively it enables the judge to determine, within five minutes after conviction of an offender, the probable value of probation, reformatory treatment and the need for mental examination.

Its cost would for Cleveland probably not exceed \$2,500 for the first year, and less thereafter. Any intelligent policeman can be taught to operate it.

### VICE CONDITIONS

In an attempt to apply the test of efficiency above described to the Cleveland police department, an under-cover investigation was made to determine the extent to which the laws against sex offenses were being violated without aid of the police.

This investigation did not disclose the existence of a red light district or any open or public houses of prostitution. Little soliciting was observed in the streets, and the dance halls were not apparently being used for this purpose.

The situation at many of the hotels was, however, found to be inexcusably bad. Prostitutes in many of these were permitted to operate without fear, and in some of them employes of the hotels assisted the prostitutes by bringing customers to them or sending them to the rooms of customers.

Such infected person shall pay for such treatment, if able to do so, but if not, such medical treatment shall be at the expense of the municipality or county.

The purpose of this amendment is to separate the detection, diagnosis and treatment of venereal disease, from the detection, diagnosis and treatment of delinquency. Experience has shown again and again that police and courts are confused and diverted from the solution of the problem of delinquency with which they are charged, by imposing medical or quasi-medical duties upon them. Furthermore, this mixing of venereal disease and delinquency is not in the best interest of public health.

Under this act, as it now exists, the judge can have in many cases no basis for issuing or withholding the order for medical examination. This basis is, as suggested in the proposed amendment, a reasonable ground for believing that the defendant is infected or has been exposed to infection. The mere fact that the defendant is charged with a violation of Section 13031-13 would be wholly inconclusive in many cases from a legal point of view.

Suppose the defendant was charged with soliciting, procuring or transporting for prostitution—all offenses which do not involve proof of sexual contact to constitute the offense. In the exercise of his discretion, the average judge might well conclude that no justification exists for compulsory examination in such cases, whereas the physician would see on the faces of many such defendants the clinical evidence or stigmata of their disease. Furthermore, evidence of exposure to disease, which has no bearing whatever on the defendant's guilt or innocence of the crime charged, could be heard by the health authorities, but not by the courts.

It is believed, therefore, that some such procedure as that suggested in the proposed amendment would much better serve the interests of both courts and health departments.

There is one type of disease, however, that is known to have a direct and vital bearing upon delinquency, and that is mental disease.

So many careful and authoritative studies have been made of this relation between delinquency and mental defectiveness that it may be taken as settled that from 20% to 50% of sex delinquents are mentally defective, and will not be benefited by the ordinary dispositions of such cases made by the courts.

The law for the diagnosis and treatment of mental defectives should be amended so as to make available to every Cleveland court, juvenile and adult, which handles sex delinquent cases, competent and adequate psychiatric service for the routine mental examination of all such delinquents, prior to sentence by the court.

Unless this be done, Cleveland may expect to see a procession of non-reformable sex delinquents returning again and again to its reformatories, and see its probation officers struggling vainly to control the conduct of

## IV. Protective Social Measures

### RECREATION

As a large part of venereal disease is due to the wrong use of leisure time, wholesome recreation for its right use is a measure of prime importance in any venereal disease reduction campaign. The public responsibility in this regard is established. Millions of dollars are being spent by official and unofficial organizations throughout the country to fill this need. Playgrounds, parks, public school athletic leagues, gymnasia, swimming pools, recreation piers, as well as such national organizations as the Boy Scouts, Girl Scouts, Campfire Girls, and others, attest the general recognition of this responsibility.

In spite of these developments in which Cleveland shares with other cities of its size and importance, much yet remains to be done to discharge this community responsibility. The exhaustive recreation survey recently completed by the Cleveland Foundation renders unnecessary here a detailed analysis of the needs of Cleveland, and the recent employment of a director of recreation is an excellent guarantee that the city accepts the responsibility. It is sufficient for our purpose to state the relation of recreation to the venereal disease problem and its importance as a measure for prevention of disease.

### PREVENTION WORK FOR WOMEN AND GIRLS

Pending the development of an adequate recreation program, and indeed complementary thereto, is the responsibility for the protection of those individuals who do not or cannot avail themselves of these opportunities for the right use of leisure time. Protection also is needed for individuals who have failed to adjust themselves to their environment and are guilty of some infraction of the law through ignorance or heedlessness, in order to prevent them from becoming habitual delinquents. A further type of protection involves the supervision of commercialized amusements, such as theaters, dance halls, restaurants, cabarets, public parks, beaches, road houses, etc. The most recent development in administrative machinery affording such protection is the Woman's Police Bureau. In Cleveland, as in other cities, this responsibility has been assumed largely by the unofficial Women's Protective Association. In Washington and other cities this work has been accomplished by the Women's Police Bureau attached to the Police Department. Rightly organized and with adequate personnel it is believed that the Police Bureau furnishes the best machinery for providing this protection.

The guidance and supervision of sex delinquents who are not yet hardened offenders, through probation, has demonstrated its value in the prevention of much social wreckage, with its resulting venereal disease. Wise, kindly, and humane probation officers can and do adjust economic and domestic difficulties and are agents of recognized value in preventive medicine.



Such women police could also protect girls who are employed at such places by insisting on the establishment and maintenance of proper rules and regulations. In addition to these inspection duties, experience in many cities where women police are employed has proven their value as street and park patrols, and in the investigation and adjustment of all sorts of home and employment conditions of girls who are either delinquent or in great danger of becoming so.

Finally, there exists in many cities, including Cleveland, a hiatus in official case work with girls, between purely protective work and probation work. The Cleveland Municipal Court Act (Sec. 1579-50) provides, for instance, that probation officers "shall devote their time to the interests of persons placed on probation." The girl who has been arrested for a sex offense in this court has no one officially interested in her, until she has been tried, convicted and sentenced. When she has at last arrived at this stage in her travels through the legal machinery, she is apt to be hardened or bitter, and experience shows that she is infinitely more difficult to influence and handle than immediately after her arrest.

A sympathetic and intelligent woman police officer, with social experience, can learn the truth from such a girl, investigate her environment, shield her from unnecessary repetitions of her story and bad associations pending trial, see to it that she is mentally and physically examined, and be of infinite value to the prosecutor and judge in the trial and disposition of the case. She may even, as is done in one large city, prevent a charge being filed against her if, after informal consultation with the prosecutor and the judge, such a course seems best for the girl and society.

It goes without saying that on the personnel of such a bureau everything depends. To secure the right type of women it would be necessary to pay the chief inspector at least \$2,000, and the others from \$1,200 to \$1,800.

It is our opinion that most harmony and efficiency will result if this bureau is made a part of the police department, responsible to its chief. The contact with the delinquents would be much closer thereby, and no jealousy between the men and women police officers need result, if it is made clear from the beginning that all credit for arrests belongs to the men and that the women derive their credit from the amount of real help they can give.

Further details concerning such bureaus can be learned from the head of one of the most progressive and effective of them, in Washington, D. C.

If it be argued that much of this work is now being done in Cleveland by the private unofficial Woman's Protective Association, and that, therefore, such a woman's police bureau is not needed, our answer would be:

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in schools and colleges should not be given prominence as a so-called course or courses of sex instruction by a special individual or teacher, but rather, that all teaching concerning sex and its manifold relations to human life should be merged unobtrusively into regular subjects of training and instruction, notably the biological sciences, general hygiene, nursing, physical education, social ethics, literature, home making, practical training for an occupation or profession.

#### SEX INSTRUCTION OF YOUNG MEN AND WOMEN.

Annually a very large number of young men and women emerge from the state of protected childhood to the responsibilities of maturity and adult life. The age at which this transition occurs for different groups varies according to the home conditions, industrial demands and environmental and educational influences for each group. The transition having occurred prior to successful sex education work and training, there remains the opportunity to give these young people sound instruction in matters of wholesome sex relations and the methods of transmission and prevention of the venereal diseases. For the most part, since young people at this age are no longer in school, the dissemination of such knowledge must be through continuation school courses, instruction of the membership of religious, fraternal and other social organizations, and the voluntary efforts of social hygiene agencies, working in cooperation with the health education authorities.

#### SOCIAL HYGIENE INFORMATION FOR PARENTS AND LEADERS OF PUBLIC OPINION.

In promoting this, as in all other public health programs, it is essential to have the support of public opinion. And since syphilis and gonococcus infections are spread by human carriers through methods which may best be combated by simple measures of control which lie within the power of the individual not yet infected, even though he does not know the identity of the infected persons, the active cooperation of parents in beginning the education and training of their children toward the ultimate application of these methods is of paramount importance. For these reasons it is necessary to promote in every practicable way the extension of social hygiene information to parents and leaders of public opinion. Among the successful plans which have been tried in this connection are parent teacher meetings, popular addresses to industrial groups, luncheon discussions under the auspices of commercial business and social organizations, clubs of men and women, appropriate distribution of selected pamphlets, motion picture and exhibit presentation of the venereal disease problem and its solution.

#### PERMANENT SEX EDUCATION MEASURES.

By way of illustration, various temporary expedients in promoting education have been indicated under "a," "b" and "c," but it should be borne in mind that ultimately as time, adequate methods and personnel become available, the essentials of needed sex education should find their way through the normal channels of popular education and religious and social training. *As a rule* permanent advances in any field of social betterment result from

ties which pass through three stages: first, the assembling and testing and proposal of practical measures; second, active propaganda for adoption of the proposed measures in the course of which the subject is brought to popular attention with an apparently exaggerated view of its importance in relation to the whole of life and social progress; third, the quiet, unobtrusive application of the permanent measures public opinion endorses; and fourth, the education of each succeeding generation as to the need for continuing such measures. The latter task always falls to the constituted educational authorities with the cooperation of parents and the powerful influence of tradition and custom. Success may be hoped for in the elimination of hereditary disease only in so far as such broad principles of education are followed.



Many chauffeurs and taxicab stands readily agreed to take investigators to prostitutes and a few restaurants were observed to permit this type of women to frequent their dining rooms.

In general it may be said that prostitutes do not flaunt themselves in the public eye, but there appears to be a large amount of clandestine prostitution, which easily escapes detection or restraint by the police.

Much of this fearlessness by Cleveland's prostitutes has probably been due in the past to the Golden Rule method of treatment which turns these women back on the streets on confession of their offenses.

None of the city departments was apparently aware of the existence of the new state law against prostitution above described, as late as November, 1919, some five months after its passage.

This law eliminates fines and provides for long sentences. It is our understanding that sex offenders will be charged under this law exclusively hereafter, and the golden rule system abandoned. Improvement should result.

The police have ample legal weapons for breaking up automobile traffic in vice under the new prostitution law. This law, together with the Injunction and Abatement Law and the law giving the State Fire Marshal power to close hotels and restaurants which permit immoral or disorderly conduct, provide legal tools which leave the city authorities no excuse for the conditions above described.

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### RECREATION

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In spite of these developments in which Cleveland shares with other cities of its size and importance, much yet remains to be done to discharge this community responsibility. The exhaustive recreation survey recently completed by the Cleveland Foundation renders unnecessary here a detailed analysis of the needs of Cleveland, and the recent employment of a director of recreation is an excellent guarantee that the city accepts the responsibility. It is sufficient for our purpose to state the relation of recreation to the venereal disease problem and its importance as a measure for prevention of disease.

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**INSTITUTIONAL CARE OF SEX DELINQUENTS**

Where the mentality of a sex delinquent is weak or the environment has been such that the delinquent will not be benefited by probation, the community as well as the individual must be protected by institutional care. Colonies for the feeble-minded, reformatories, etc., for those for whom rehabilitation is possible, have been approved by the most advanced thought of students in this field.

## V. Sex Education

**A**NY program for the eradication of human-contact diseases, such as tuberculosis, syphilis and gonococcus infections, which are so difficult of prompt recognition, so insidious in their onset and methods of transmission, and so successful in their development of carriers, must include education as one of its outstanding features. Such education naturally divides itself into, first, the training of those not yet infected in the application of measures for their protection, and, second, the instruction of those who are already infected in the value of persistent and curative treatment and in measures for the avoidance of infection of others. The latter instruction must necessarily be carried out by doctors, nurses, public health officials and others who are dealing with infected persons. For practical purposes, therefore, educational measures must be directed toward the great mass of the population who are not infected, and may be grouped under four headings:

Sex education for children.

Sex instruction for young men and women.

Social hygiene information for parents and leaders of public opinion.

Permanent sex education measures.

### SEX EDUCATION FOR CHILDREN

It is just as reasonable and practicable for the health officer to plan twenty years into the future a campaign of protection of the public from a given disease, as it is to plan ten thousand miles in distance. In the latter case the federal public health authorities expect and receive the support of the public in placing health officers in India, China and other distant lands, in order to prevent bubonic plague from reaching the seaports of the United States and becoming an imminent danger. In the former case it is reasonable for the health officer to expect full cooperation and support of the public in placing proper officers, so to speak, twenty years in the future to establish barriers for the prevention of exposure of citizens of the United States to syphilis and gonococcus infections. This is only another way of stating, of course, that the barriers which will prove most effective in protecting against these diseases are proper sex education, right methods of thought, religious and ethical training, and adequate environmental protection against exposure. For such educational and environmental measures to have their largest influence, work must be begun in early childhood and be continued until the individuals concerned are fully established in their homes as adult citizens. The task of promoting this phase of preventive measures must eventually necessarily fall to the trained educators, although all public health officials can be of very great assistance.

While the purposes of this report do not permit of full discussion of sex education, it is, perhaps, permissible to point out that the consensus of opinion of educational and public health authorities favors a sex education program based on the fundamental proposition, that social hygiene education

in schools and colleges should not be given prominence as a so-called course or courses of sex instruction by a special individual or teacher, but rather, that all teaching concerning sex and its manifold relations to human life should be merged unobtrusively into regular subjects of training and instruction, notably the biological sciences, general hygiene, nursing, physical education, social ethics, literature, home making, practical training for an occupation or profession.

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activities which pass through three stages: first, the assembling and testing of data and proposal of practical measures; second, active propaganda for the adoption of the proposed measures in the course of which the subject comes to popular attention with an apparently exaggerated view of its importance in relation to the whole of life and social progress; third, the quiet, general application of the permanent measures public opinion endorses; and education of each succeeding generation as to the need for continuing such measures. The latter task always falls to the constituted educational authorities with the cooperation of parents and the powerful influence of convention and custom. Success may be hoped for in the elimination of enereal disease only in so far as such broad principles of education are applied.

# **THE CLEVELAND HOSPITAL AND HEALTH SURVEY REPORT**

## **List of Parts and Titles**

- I. Introduction.**  
General Environment.  
Sanitation.
- II. Public Health Services.**  
Private Health Agencies.
- III. A Program for Child Health.**
- IV. Tuberculosis.**
- V. Venereal Disease.**
- VI. Mental Diseases and Mental Deficiency.**
- VII. Industrial Medical Service.**  
Women and Industry.  
Children and Industry.
- VIII. Education and Practice in Medicine, Dentistry, Pharmacy.**
- IX. Nursing.**
- X. Hospitals and Dispensaries.**
- XI. Method of Survey.**  
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**THE CLEVELAND HOSPITAL COUNCIL,  
308 Anisfield Building,  
CLEVELAND, OHIO**

# **Mental Diseases and Mental Deficiency**

## **PART SIX**

**Cleveland Hospital and  
Health Survey**

XL





**Mental Diseases  
and Mental Deficiency**

**PART SIX**

**Cleveland Hospital and  
Health Survey**

Copyright, 1920  
by  
**THE CLEVELAND HOSPITAL COUNCIL**  
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## Preface

The Hospital and Health Survey of Cleveland was made at the request of the Cleveland Hospital Council.

The Survey Committee appointed to be directly responsible for the survey and through whose hands this report has been received for publication consisted of the following:

MALCOLM L. McBRIDE, *Chairman*;  
MRS. ALFRED A. BREWSTER,  
THOMAS COUGHLIN,  
RICHARD F. GRANT,  
SAMUEL H. HALLE,  
OTTO MILLER,  
DR. H. L. ROCKWOOD,  
HOWELL WRIGHT, *Secretary*

The staff responsible for the work were:

HAVEN EMERSON, M. D., *Director*,  
and the following collaborators:  
GERTRUDE E. STURGES, M. D., *Assistant Director*;  
MICHAEL M. DAVIS, JR., Ph. D., *Director of the Hospital and  
Dispensary Survey*;  
JOSEPHINE GOLDMARK, B. A., *Director of the Nursing Survey*;  
WADE WRIGHT, M. D., *Director of the Industrial Hygiene Survey*;  
DONALD B. ARMSTRONG, M. D., *Director of Tuberculosis Survey*;  
S. JOSEPHINE BAKER, M. D., D. P. H., *Director of the Infant  
and Maternity Survey*;  
T. W. SALMON, M. D., *Director of the Mental Hygiene Survey*;  
W. F. SNOW, M. D., *Director of the Venereal Disease Survey*;  
LOUIS I. DUBLIN, Ph. D., *Director of the Vital Statistics Survey*.

The expenses of the Survey and of the publication of the report have been met by appropriations received from the Community Chest, through the Welfare Federation, of which the Hospital Council is a member.

The report as a whole, or by sections, can be obtained from the Cleveland Hospital Council. A list of the parts will be found in the back of this volume, together with prices.



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## PREFACE

THE National Committee for Mental Hygiene was requested by the Director of the Cleveland Hospital and Health Survey to make a study of the provisions for dealing with the medical and social problems arising out of mental disease and mental deficiency, as it was felt that the field to be covered was such a special one that an organization with experience in conducting such studies would be most apt to obtain a clear picture of existing conditions and to make sound recommendations. Those in charge of the general Survey have made me feel at all times that my share in the work constituted an integral part of the larger undertaking, and I wish to express my deep appreciation not only of their cooperation but of the sympathetic understanding with which my work in a special field has been regarded.

It is difficult to render proper acknowledgment to individuals for assistance and advise when all of those with whom I came in contact during the Survey gave me every possible assistance. Nevertheless, the following persons contributed of their time and wise counsel so liberally that special acknowledgment should be made:

Hon. Howell Wright, who supplied information, advice, and secured data otherwise difficult to obtain; Hon. Alexander Hadden, Judge of the Probate Court; Hon. George S. Addams, Judge of the Juvenile Court; Hon. Dudley S. Blossom, Director of Public Welfare; Dr. Chas. W. Stone; Dr. Leonard R. Ravitz, who assisted in the neuro-psychiatric examinations; H. Austin Aikins, Ph. D., Professor of Psychology, College for Women, Western Reserve University, who made the psychological tests; Miss Claire Walters, who assisted actively with personal work, information and in securing documents; Miss Cecelia A. Evans, of the Public Health Nursing Course at Western Reserve University, who took much interest and enabled three of the pupils, Miss Nesbit, Miss Graham and Mrs. King, to render valuable direct assistance in the work; Miss Charlotte Steinbach, Supervisor of Special Classes in the public schools.

The various welfare organizations, especially the Associated Charities who cooperated in making a study of their families, and the Welfare Federation and the Humane Society who arranged for and assisted in the examination of inmates of orphanages and other institutions and of children boarded out in families.

The methods by which my studies were carried on are of little general interest and so I will not describe them in detail. Every institution in which the problems of mental disease and mental deficiency seemed likely to be encountered was visited, in many cases a number of times. Five hundred and forty-one individuals in various hospitals, homes, clinics and schools were carefully examined by psychiatrists and psychologists with a view to determining their mental condition and the type of treatment or supervision that they actually required. A large number of people whose work dealt even slightly with these problems, were consulted personally or through correspondence, and official reports and other publications were freely used. It is impossible to assign proper credit where extracts have been made from so many different publications, so I take the opportunity here of making a general acknowledgment.

JESSE M. W. SCOTT,  
*Field Consultant,*  
*National Committee for Mental Hygiene*

# Mental Diseases and Mental Deficiency

by

THOMAS W. SALMON, M. D.

Director of Mental Hygiene Survey

and

JESSE M. W. SCOTT, M. D.

Field Consultant

National Committee for Mental Hygiene

## Introduction

NOT long ago mental diseases and mental deficiency were thought to present only one group of problems, that dealing with the proper institutional care of persons who suffer from these disorders. Slowly, as medical and social work in relief and rehabilitation became more extensive in scope and intensive in method, it became apparent to those engaged in such work that mental factors, at one time in one form and again in another, complicate, or, in many cases, entirely condition the individual or social situations which require attention. No American cities attempt now to deal with the great social problems arising out of disorders of conduct of their citizens by measures applicable only to *groups* of persons. We know that behind social mal-adaptation lies the mal-adaptation of some *individual* or individuals, and that behind the mal-adaptations of individuals lie those *mental factors* which determine behavior. Sometimes such factors produce conditions which are generally recognized as mental disease or states of defective mental development. Sometimes they produce alterations in behavior which do not follow conveniently the conventional boundaries of mental disease or mental defect. It is very widely recognized, however, that the success of efforts for the economic or social reconstruction of individuals or families who become liabilities to their community instead of remaining assets, depends largely upon the personal resources of the individuals concerned, and that among these resources none compares in its actual influence upon life with their type of mental reactions. With a normally adaptable mind, severe physical and economic handicaps are overcome, but with a mind defective from birth or damaged by disease, ordinary tasks in personal or social adaptation are difficult or impossible.

## Mental Factors in Medical and Social Problems

It is one thing to recognize the importance of mental factors in the social and medical problems of a community and another to devise methods by which the community can best deal with these factors. There is general lack of exchange of ideas on this subject between American cities. Experiments that have failed in one place, through intrinsic causes of failure, are embarked upon hopefully in another. In no city is all the work of the community that deals with mental disease and mental deficiency centered in a single administrative department. In general, the task of unofficial welfare agencies is to make beginnings before the official authorities are ready or free to act, and to deal informally with individuals who are in difficulties before the graver situations with which the official agencies are especially



prepared to cope have arisen. Often, unfortunately, there is lack of continuity between the activities of official and unofficial agencies. In consequence, one sees the most perplexing and wasteful duplication of effort. Water is poured liberally on the smoke while the fire often burns unchecked.

It has been the purpose of this Survey not only to trace as closely as possible the tangled relationships which mental disease and mental deficiency bear to other problems and to examine and appraise the value of the different efforts, large and small, official and unofficial, which the city is putting forth in its effort to deal with them; as so much of real governmental responsibilities are taken over, for the time being at least in this country, by voluntary welfare agencies, the Survey has dealt quite as fully with the work of the latter as with that of the city itself. It is felt that the presentation in full of the very large amount of detailed information collected would serve no useful purpose, and so only an outline of actual findings is given, the space available in this report being devoted chiefly to a consideration of the means by which the city can best deal in a constructive and progressive way with the problems that are indicated.

### Complaints of the Community

In medicine, no intelligent physician undertakes to examine a patient or to recommend treatment until he has heard a spontaneous account by the patient himself of the complaints which led him to seek assistance. It seems proper, therefore, to commence this Survey with a brief statement of the complaints that the community has to make in relation to the provisions existing in Cleveland for the diagnosis, treatment and supervision of persons with mental diseases or mental deficiency.

Physicians complain that no adequate provisions are made by the city for the temporary observation of persons with mental diseases during the period in which measures for their future are being considered, nor for their emergency treatment. They say that the rich or well-to-do find the facilities they need in private institutions, but for the poor and those in moderate circumstances, upon whom the stress of disease falls so heavily, the city offers nothing more than a partly custodial and partly correctional type of institution connected with the City Hospital, in which the modern treatment of mental disorders has no place. They complain also that the state of Ohio has made so much less provision for the continued care of mental cases than the population requires, that Cleveland, in addition to performing the emergency services mentioned above, must also provide continued care for many persons simply on account of the failure of the state to perform its well-recognized share of the duty. They assert that such conditions make persons with mental diseases reluctant to apply for treatment in the earlier stages of their disorders, in which effective measures of treatment are most likely to prove successful. Far from extending aid to those suffering from mental disorders, the absence of proper facilities and the harsh legal methods so generally employed serve, they say, most effectively to cause mental patients to conceal their troubles. They complain that the law plays a much larger part than medicine in the management of mental diseases in Cleveland,

and that legal measures properly applicable to a very small proportion of mental patients are applied to practically all, with the result that much avoidable suffering and humiliation accompanies illnesses painful enough to the patients and their relatives without such additional inflictions.

Welfare agencies which have to deal with that part of the city's problem of caring for the mentally ill that has been mentioned and, in addition, with many trying social situations which grow directly or indirectly out of mental disorders, complain that there are many insane and feeble-minded persons in institutions not intended for them and in families in the community, and that the presence of those who are for purely humanitarian reasons sheltered in institutions designed for another purpose prevents such institutions from successfully carrying out their original purposes, and is of little or no benefit to the mentally defective who are received. These agencies complain that no psychiatric or psychological examinations are made when dependents are received into orphanages and other welfare institutions or sent to homes to be boarded out. They say that, in the absence of facilities for psychiatric diagnosis in well-staffed, well-equipped psychiatric clinics, they have to make shifts for themselves which are not only ineffective but often wasteful of time and money. They feel that some of their most difficult and apparently hopeless problems could be solved if the state bore the share of the burden of institutional care that is borne by most other states.

The judges complain that the task assigned to them by the archaic laws of Ohio governing the legal management of mental diseases, is a burdensome one and that not infrequently they are compelled to do grave injustice to sick persons because of the lack of an adequate mechanism for determining the questions at issue.

It has been our task to examine the foundations for these grave complaints and to suggest remedies that have been effective when applied elsewhere.

## City Facilities for Diagnosis and Treatment

**W**HAT basis is there for the complaint by physicians that Cleveland is without facilities even for the emergency care and observation of mental cases, because, for this type of illness, the public and private hospitals of the city have practically nothing to offer? It is convenient to consider first the great City Hospital—the chief resource of the sick poor—and then the other hospitals which can be looked to to supplement the work of this institution.

### Cleveland City Hospital

The general features of Cleveland City Hospital have been very fully described in other sections of this report.

This hospital is far from being adequate. As the report in Part X. indicates, the buildings are old, equipment is largely out-of-date, and many facilities possessed by a hospital completely equipped to discharge its obligations to the sick of the community are lacking. Nevertheless, scientific medicine and surgery find their way into every general ward to the extent of the facilities available. When a new patient is admitted every effort is made to discover the nature of the disease from which he suffers and the possibility of bringing about his speedy recovery, amelioration of his condition or relief from his distress. Let a medical or surgical discovery in therapeutics be made in any great medical center of the world and it is only a little while before it is applied to the benefit of patients in this hospital. Forming as it does a part of the clinical resources available for teaching in the medical school of Western Reserve University, cases are studied not only with reference to their own needs, but to the means by which their diseases and the causes of these diseases can best be presented to medical students who will be required to treat similar conditions in their own practice later on.

All this, however, refers only to the *general wards* of the City Hospital. When one leaves these wards, crosses a little strip of grass and enters the doors of the building devoted to mental cases he leaves behind him not only the medical science of the present century, but, in a large part, its humanitarian attitude towards disease and suffering. The building in which the wards for mental patients are located was erected in 1851 and used as the city poorhouse. In its arrangement you will see no evidence of thoughtful hospital planning to meet a special need nor even bright sunny wards such as those to be seen in other portions of the hospital. A wide, dark corridor runs down the middle of each floor, with little cell-like rooms on either side. At about the middle this central corridor is crossed by another, one arm of which serves as a dining room and the other as a crowded day room. The arm of the transverse corridor used for a day room has a bare table and not enough chairs or stools for the patients to be seated. Along the central portion are cots for the overflow. The place would be depressing enough, with this dark corridor and the cell-like rooms, but the discolored and dilapidated walls increase its gloomy appearance. The rooms are about eight by nine feet in size. Although they provide the minimum of floor space allotted to one person, many of them are occupied by two patients. Their windows are

barred; they have no provision whatever for artificial illumination and for heat they depend upon radiation from the corridors. The wooden floors are worn nearly through and it is impossible to keep them in a clean and sanitary condition. A short time ago a woman pulled up a part of the floor in one of the rooms and escaped through the hole which she had made. Rats and bedbugs are numerous. Each floor, which accommodates 60 patients, has but a single bathtub and one toilet in a dilapidated room. There are no arrangements for the use of hydrotherapy nor for prolonged tepid baths. The building is lighted by gas, in spite of the dangers in this kind of illumination to hospitals for mental cases. There are no outside porches, but a small area of the ground is enclosed. Women occupy this part of the day, and men the other, except in bad weather, when, for weeks at a time, no one is out.

There is no classification of patients. The anxious and depressed and the excited and noisy occupy the same ward. Childhood and old age mingle. Social distinctions are left outside. The hard-working, self-respecting mother who has reared her children in a clean American home and has in her later years developed certain mental changes listens all day to the curses of a young prostitute in a bed adjoining hers.

For the care of those 120 persons suffering from serious and complex diseases, nearly every one of whom presents an individual problem in diagnosis or treatment, there are but two trained nurses; one for each floor. For the rest, dependence is placed upon untrained women attendants for the female patients, and male attendants for the male patients. Mechanical restraint is used freely. In the absence of any other provision dealing with disturbed conduct, it constitutes a relatively humane method. The one bright spot about these miserable wards is the kindly spirit which is shown by attendants toward those whom misfortune has brought into their care. Although those who govern this great, rich city have failed to recognize the needs of the most unfortunate of all its citizens, the poorly-paid and poorly-trained people who spend their days in these wards try to make up by their own devotion for the city's neglect.

The "laboratory" of this department is in keeping with its inadequacy in all other respects. It is a single room where analysis of urine can be made, but with provision for practically nothing else. There is no diagnostic or therapeutic equipment, whatever, not even an apparatus for testing blood pressure. Simply for convenience, a certain number of convalescent cases and a few organic nervous cases are cared for in this department.

This place has been visited by many medical visitors familiar with the provisions for acute mental diseases in other large cities in the United States, and they are agreed that none maintains a poorer, shabbier, more barren place than this. It is a place of custody and safe-keeping to which no term suggesting a hospital is applicable. It represents, however, the exact measure of the sympathy, kindness and helpfulness which the city of Cleveland extends to its insane poor. Nothing could be better calculated to deter those seeking treatment during the earliest and most curable stage of the disease. Nothing could give medical students and pupil nurses a more distorted conception of the needs of the mentally sick and of the resources which modern



*Wards for Mental Patients, Cleveland City Hospital—Erected for a Poorhouse sixty years ago.*



*A Modern Mental Hospital—Building where all new patients are received.*



*Wards for Mental Patients, Cleveland City Hospital.—“Day Room”—bare and dilapidated; patients ill.*



*A Modern Mental Hospital—"Day Room"—comfortable and cheerful; patients occupied.*





*Wards for Mental Patients, Cleveland City Hospital—General Bath and Toilet for Men.*



*A Modern Mental Hospital—Baths for Treatment.*



*Wards for Mental Patients, Cleveland City Hospital—One of the Cell-rooms*



*A Modern Mental Hospital—Single Room for Disturbed Patient.*



*Wards for Mental Patients, Cleveland City Hospital—Excitement controlled by isolation in "Strong Rooms."*



*A Modern Mental Hospital—Excitement controlled by prolonged baths and skilled nurse.*

science and humanity, under happier conditions, is able to bring to bear upon their illness. Nothing could affect more adversely a person suffering from a depressed form of mental disease, in which foreboding and fear have taken the place of the normal mental attitude, than to be brought into these wards, every feature of which suggests neglect and hopelessness. Time and indifference have painted the scenes so vividly shown in the accompanying photographs, but had a skillful "movie" director desired to create a setting symbolic of poverty and despair he could have done no better.

Fortunately, this deplorable place will soon be a thing of the past. The approval of the bond issue for a new City Hospital makes it possible to tear down these dilapidated wards and replace them by a building that will reflect the modern attitude toward mental illness. It is proposed to provide from 128 to 200 beds in the new City Hospital for the observation and temporary treatment of mental cases. If these provisions are wisely planned so as to provide the facilities for classification and special care which are required for the modern treatment of acute mental disorders, the neglect of the last half century may be atoned for. It is extremely important that the plans for the new psychopathic building should be prepared in consultation with those who are familiar with such departments elsewhere and who know the precise purposes which they must be designed to serve. Not only are new buildings needed, however, but the city must be prepared to provide the personnel of physicians, nurses and attendants needed to carry on treatment in accordance with modern standards. An adequate ambulance service is essential in order that mental cases may be brought there from homes under the same conditions as those by which other sick persons coming under treatment are received. A full-time, resident psychiatrist, and at least two assistants, with a sufficient number of internes, will be needed. It will also be necessary to have an assistant superintendent of nurses who will not only have charge of the nurses and pupil-nurses attached to the psychopathic department but will direct their training in the practice of mental nursing. Occupation instructors will be needed to institute, at the bedside and in the workrooms, occupational treatment especially designed to meet the needs of individual cases.

When such provisions exist, the Probate Court will no longer be the only course of admission. Patients will be freely transferred from the other wards of the hospital and back again, and many will come voluntarily to avail themselves of the special facilities provided and to seek the services of physicians and nurses skilled in the treatment of the serious forms of illness from which they suffer. Anyone in the city of Cleveland who has a mental problem to solve may then be made to feel that this hospital and its outpatient department stand ready to give their aid. Such problems may arise in adults and be recognized by their families or by themselves, or they may arise in children and be recognized by those responsible for their care or instruction. They may come to attention only when anti-social conduct has brought them to the courts. They may complicate other difficulties in personal or social adaptation in which they play an important but secondary part. For the solution of all such problems, whatever their nature, the city will have in such a psychopathic hospital as that which has been discussed, the best type of medical resource that has yet been devised.



*Wards for Mental Patients, Cleveland City Hospital—Child in Ward for  
Alcoholics and Drug Addicts.*



### Provisions for Mental Cases in Other General Hospitals

**LAKESIDE HOSPITAL**—This important teaching hospital has no place for even the temporary care of mental cases. In Cleveland, as elsewhere in the United States, the virtual exclusion of patients with mental diseases from general hospitals is due to a fundamental defect in medical education which trains students in physical disorders and practically ignores disorders affecting the mind.

Dr. Pearce Bailey, in a recent article\*, inquires why problems in mental medicine have not received the attention which problems in general medicine have, and answers his question in the following words:

"One significant answer to this question will be found in the indifference on the part of the medical profession to nervous and mental diseases. What medical school today, what general hospital, gives any but the most meagre and grudging representation to neurology and psychiatry? Our medical faculties have done so little to encourage interest and knowledge in these subjects that some of the most important social features connected with them have been brought to public interest by laymen. Indeed, we are so behind hand in these matters that there is a question if American neurology and psychiatry will ever attain the position they should have unless there is established a special foundation for research and teaching, to do for the menace of nervous and mental disease what is being done as a matter of course for physical diseases. It really seems that a care-free foundation were the condition for the firmer, broader, more scientific grasp of the subjects which bring us into closer relation with human nature than any others. Trained men are wanted everywhere, a wider dissemination of knowledge is wanted. Men trained in mental medicine are needed at the state hospitals, in the Public Health Service, in the courts and the schools, to carry on the principles of the few psychiatric clinics thus far established. Where are they to come from? What medical school is in a position to train them? A great field of preventive medicine is before us, asking for action. Perhaps in the past the proofs of the need have not been plain enough. That explanation no longer holds good. The public health importance of nervous and mental diseases no longer permits of evasion."

The facilities for teaching mental medicine in the Medical School of Western Reserve University are neither inferior nor superior to those found in practically all American colleges. The academic status of psychiatry—an unimportant division, combined with neurology, of the department of general medicine—is in harmony with the meagre clinical facilities available and the small number of hours devoted to the subject in the curriculum. The only wards in which mental patients can be studied by medical students are those at the City Hospital, where the most striking thing to be seen is the neglect with which mental cases still can be treated in an institution devoted to the relief of the sick. A rather striking local occurrence which shows how little can be accomplished when psychiatry is taught under such conditions was afforded by a trial in which the testamentary capacity of a wealthy man was the issue. A recent graduate of the Medical School, when placed upon

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the witness stand, attempted to describe the patient's mental disease in a confused medical jargon, instead of stating what it was that he saw and heard which led him to make a diagnosis of mental disorder. The impression made on the court was that of a person attempting to describe something he knew nothing whatever about. A few minutes later, however, a bank clerk who took the stand gave a clear, simply-worded account of his dealings with the patient, evidences of failing memory, of delusions, misidentification of persons and other evidences of a disordered mind.

The authorities of the University and the Medical School are fully aware of the deficiency which their school shares with so many others, and an active movement is under way to include a modern well-equipped university psychiatric clinic in the new Lakeside Hospital. When these facilities are available, mental cases will be admitted to the wards set aside for them with as little formality as to the general medical or surgical wards of the hospital, and students will learn their mental medicine in the same atmosphere of science and kindly care as that in which they learn to diagnose and treat all other types of illness. With such provisions, those who graduate from this medical school in the future will have an attitude toward mental disease very different from that of those already graduated, who are carrying into the homes and hospitals in which they practise a conception of insanity that belongs to a different century. The benefits of the university psychiatric clinic to others are even greater than those which come to the future physicians. The training school for nurses of the parent hospital which has a psychiatric department gives special consideration to mental nursing, all pupil nurses spending a definite period of their course of training in the mental wards. The social service department of a university psychiatric clinic enables the environment to be studied as a factor in the causes of disease, its manifestations or its outcome. Thus, the hospital is brought into contact with the school and the home and when such relations are established between the social environment in which mental illness has its origin and the psychiatric hospital in which it is studied and treated, a real and positive mental hygiene becomes possible.

**FAIRVIEW PARK HOSPITAL**—The medical staff of Fairview Park (formerly the German) Hospital is headed by a neuro-psychiatrist. A limited number of patients are received in private rooms where they are cared for skillfully under his direction. A mental hygiene clinic is about to be opened.

**MT. SINAI HOSPITAL** has this year appointed a neuro-psychiatrist to its staff and inaugurated a mental hygiene clinic.

**ST. JOHN'S HOSPITAL** is able to take in a few mental patients, who offer no special difficulties in treatment, but it has no out-patient department for mental diseases and no psychiatrist.

**LAKEWOOD HOSPITAL** also receives a few mental patients, the physicians who bring them into the hospital being responsible for their care.

**OTHER GENERAL HOSPITALS**—There are no beds for mental patients in the hospitals not mentioned above, except the Marine Hospital in which there are a few beds for mental patients among beneficiaries of the Bureau of

War Risk Insurance, but most of them have neuro-psychiatrists on their consulting staffs. In none, however, is there a regular psychiatric service or clinic. The neuro-psychiatrists act as consultants and are called in only when some one feels that their special services are needed. How little this need is apparently felt is shown by the fact that the neuro-psychiatrist of one of these hospitals made his last visit before he left to enter the army and it was not known at the hospital whether or not he had returned to Cleveland since the war. In another hospital no psychiatric consultations had been held or demanded within two years.

### Dispensaries

There are no dispensaries for psychiatric cases in Cleveland. Were it not for the psychological clinic maintained by the Board of Education and the work done by Miss Claire Walters in connection with the Boys' Home and the Juvenile Court, it would be necessary to say that no organized facilities existed for the examination of mental patients in out-patient clinics. It is well recognized that the psychological clinic can deal with only one phase of the problems of mental diseases and mental deficiency. With the great shortage of institutional provisions that exists in Cleveland the need for dispensaries is much increased. There is urgent need for several well equipped and well staffed psychiatric dispensaries not only to aid the psychological clinics in rounding out their work with children but to bring medical aid to many who can be most successfully treated in that way and to others who need institutional care but who can be tided over temporary difficulties by the help that they can receive in a well-conducted psychiatric dispensary. The out-patient department of the proposed City Psychopathic Hospital will be one of its most useful activities but to deal with such special problems as those presented in the schools and courts and homes, "outposts" must be established which can give as many hours or days a week as are necessary to these special tasks. With a personnel consisting of a psychiatrist, a psychologist and a social worker such "outposts" can become extremely valuable diagnostic and therapeutic agencies, especially when they have behind them the wards and laboratories of a modern psychopathic hospital. Another such dispensary which should also maintain its share of "outposts" should be established at the Lakeside Hospital where it will greatly increase the usefulness of the proposed university psychiatric clinic.

### Private Sanitarla for Mental Cases

The number of patients in private institutions in the different states bears a general relation to the extent and character of state care. Where state care is maintained at a high level of efficiency, persons avail themselves freely of it, but when it is poor in extent or quality every effort is made, even by those with very limited means, to provide some kind of a substitute. It is not surprising, therefore, that with its overcrowded state hospitals operated at a very low cost, Ohio should have a relatively large proportion of patients in private institutions.

In most other states the insane and mentally defective, whether in public or private institutions, are at all times regarded as wards of the state. This is a practical survival of the ancient custom which made all minors and incompetent persons wards of the Crown. In Ohio no license whatever is required to conduct a private sanitarium for the care of voluntary or committed cases of mental disease. In spite of the efforts of a former member of the State Board of Charities, who was a psychiatrist, to bring such institutions under state supervision, any person can start a sanitarium, advertise, receive patients, lock them in strong rooms or restrain them in beds without any authority of law. These sanitariums are not inspected, in fact, are scarcely known to exist, except by physicians. Judges occasionally order patients to such institutions which receive them on that specific order, but thereafter the state exercises no supervision. Practically the only control which any state official has over these institutions is that exercised by the Fire Marshal who may declare the premises unfit for the purposes for which they are used and order the reception of persons and patients discontinued on the ground of fire hazard.

This lack of supervision over what is generally recognized to be an activity in which the state has a very definite responsibility, may be contrasted with the provisions for licensing and inspecting private institutions which exist in New York. In that state a private institution caring for mental cases must secure a license which is granted only after a careful inspection by the psychiatrist who is Medical Inspector of the State Hospital Commission. The physician-in-charge of a private institution must have had at least five years' experience in the treatment of mental diseases in an institution for the insane. All cases under treatment in an institution must have been received as voluntary patients under the laws regulating this form of admission or must have been committed by one of the methods provided by law. Such institutions are frequently inspected and they must make the changes and improvements ordered by the State Hospital Commission, in personnel as well as in physical facilities, or be in danger of having their license revoked.

Nothing that has been said above regarding the necessity for supervising and inspecting private sanitariums for the care of mental cases should be taken to minimize the valuable part which the best of these institutions, even though run for profit, play in the treatment of mental diseases. It would be difficult to devise any other substitute for patients who require continued care and are able to pay more for it than the cost of maintenance in the state hospitals. There are certain disadvantages in the lack of a large staff, laboratories and facilities which characterize the modern state hospital, but the surroundings of the good private institutions are similar to the patient's usual environment. Much more individualized work is carried on in behalf of those who have disorders of long duration, but with prospects of ultimate recovery, than is possible in the state hospitals, in which practically all therapeutic effort is concentrated for a short period upon a relatively small proportion of patients. Several of the sanitariums for mental diseases, which receive patients from Cleveland are excellent institutions, have staffs of competent physicians and nurses and are able to provide practically all the facilities for treatment which modern standards demand. On

the other hand, others which often charge as high or higher rates provide only custodial care which, in many instances, is inferior to that provided by a state hospital.

There is urgent need of a change in legislation which will enforce in Ohio the provisions of the Fifth Amendment of the United States Constitution, which makes it illegal to deprive any person of "life, liberty or property, without due process of law." Private sanatoria for mental patients and mentally defective children should receive their cases by voluntary admission, commitment for observation, or regular commitment, as is the case with public institutions. Such institutions should be licensed, preferably for a year at a time, after an inspection of the plant and facilities by a competent psychiatrist and after approval by the Bureau of Hospitals of the State Department of Health. Every such institution should be subject to expert inspection not less frequently than four times a year and during such inspections every patient should be examined to see that he is either a voluntary patient or held under proper legal authority and to determine whether he is receiving the treatment which his condition demands. A provision should also be inserted in the law which will make it mandatory for the medical head of each such institution to possess certain experience in the care of mental disease. It should be within the power of the licensing board to revoke or fail to renew at any time the license of any private institution which does not maintain a satisfactory standard of treatment or which receives patients through illegal methods of commitment.

### Places Other Than Hospitals for Detention or Care

**COUNTY JAIL**—The county jail provides for a small number of mental cases. In the cell section there are two beds in which prisoners who are quite ill physically or are thought to be mental cases are put for short periods. Formerly this was the only provision available for those who after their arrest seemed to present evidences of abnormal mental condition. Largely through the efforts of Judge Alexander Hadden of the Probate Court, a room off the sheriff's office was secured and provided with eight beds. Men who are apparently insane, epileptic or mentally defective are now put into this room. Before prohibition went into effect more than fifteen had been housed in this room at one time, mattresses being placed on the floor and the patients placed two in a bed. Since prohibition this number has been greatly decreased so that sometimes for several days at a time there has been no new mental case admitted. When the jail was visited there were two patients in the room, one a man who escaped from the State Hospital at Massillon, and the other a young negro awaiting investigation. These patients are kept segregated from criminals, and everybody at the jail seems to realize that they should have some special attention. Usually after one night spent in the jail hospital mental cases are examined by one of the neuro-psychiatrists attached to the Probate Court and when their cases have been considered by the court they are transferred to the City Hospital or other disposition made. Women are taken to the matron's floor where they have the freedom of a good-sized room during the day. At night they are put in cells.

In spite of the best provisions, insane persons who are unable to give an account of themselves or who suffer with disorders of conduct are extremely likely to be picked up by the police. With a law which permits the admission of all such persons to psychopathic wards for observation, it is not necessary for such cases to be detained in jail at all. In fact, in several states, provisions of the insanity law directly forbid the placing of an insane person or one in whom insanity is suspected in a place for criminals or even in a place in which are to be found those accused of crime. Prisoners who are awaiting trial or who exhibit evidences of mental disease during their imprisonment should be transferred at once to the psychopathic department of the City Hospital for observation. This applies to alcoholic cases and drug addicts whose arrest cuts off the supply of the drug to which they are addicted. It is very evident that the jail is regarded in Cleveland as a wholly unsuitable place for persons suffering from mental disease and, very properly, no provision is made there for other than the most temporary kind of care.

Mentally defective prisoners are very unlikely to have their condition recognized at the jail unless they are very low grade defectives, when they usually take the course through the Probate Court followed by those suffering from mental diseases.

With the routine mental examination of a person admitted to a jail, such as is the practice in many cities and is rapidly extending to others, it will not be necessary to depend upon the untrained judgment of the sheriff and jailers as to the mental state of prisoners.

**CITY FARM**—On a large tract of land at Warrensville, a short distance outside the corporate limits of the city, is the City Farm which was acquired upon the suggestion of Dr. Harris R. Cooley, at one time Director of Charities and Corrections. It was Dr. Cooley's plan, as part of a general system of parole and reconstruction, to attempt to reclaim prisoners in the House of Correction by giving them an opportunity for industrial training on the farm. The tract of land is so large that some of it was soon used for other purposes. There are now on this tract in addition to the House of Correction, the Tuberculosis Sanatorium (described in Part IV. of the Hospital and Health Survey), the Girls' Home and the City Infirmary.

**THE CITY INFIRMARY**—This institution provides for about 500 patients, most of them advanced in years, with chronic illnesses. Some are able to do about and help to a certain extent in the institution, but most of them are too infirm. Cases are received upon the order of the Superintendent of Out-door Relief after being referred to that official by the families of patients, district physicians or other physicians. The building is new and clean. There is only one resident physician and few nurses, so the standards of scientific care are not high, although there are many evidences of kindness and interest on the part of those who are in contact with the patients. Specialists from the Probate Court make periodical examinations of the whole population of the Infirmary for the purpose of discovering and having 'probated' those suffering from mental diseases. The last such visit was in November, 1919, and another is expected in the near future. The exami-

nation of seventy cases indicated that a number of patients with well-defined psychoses will be found and, in addition, many others with simple senile deterioration who are usually not transferred to the "insane wards." These "insane wards" consist of two buildings of modern construction, but show no evidence of having been planned especially for the purpose for which they are used. When visited there were seventy-nine male and eighty-nine female patients. Windows are guarded and doors locked. In general, the wards were clean and not unattractive. Patients are not received directly to these wards, but, in all cases, transferred from the City Hospital or from other wards of the City Infirmary. Theoretically, all are awaiting reception by the State Hospital as soon as vacancies exist. Actually, they will spend many months or years in the institution, for vacancies in the State Hospital are used for the reception of more acute cases. These patients have no specialist in mental diseases to direct their care and no trained nurses. Attendants who are paid from \$42.00 to \$50.00 per month, with maintenance, are employed. These attendants, as is so often the case, make up in kindness and thoughtfulness much that they lack through not having had special training.

These "insane wards" are purely custodial. They represent another period in the history of the care of the insane, and exist only because, pending the state's tardy recognition of its duty in the matter, Cleveland is content to allow some of its citizens who suffer from serious diseases to be held in a custodial institution without treatment. Sane patients are sometimes transferred from the other wards of the City Infirmary to the "insane wards" for "discipline," a practice unfair alike to the insane and to those who are transferred.

## State Facilities for Diagnosis and Treatment

**I**N every state the care of mental diseases is very largely dependent upon legal and administrative mechanisms set up by the legislature.

A community may possess an enlightened and humane conception of its duty toward its mentally ill but such a conception can be expressed only through such mechanisms. In all other diseases no such situation exists. It is for this reason that a study of the facilities for dealing with mental diseases and mental deficiency in Cleveland must take into consideration the laws, administrative agencies and institutions that the state of Ohio has provided.

### State Board of Administration

The form of institutional administration and supervision in Ohio is that known as the "State board of control system." In this system all authority is placed in the hands of the few men constituting the central board, and the institutions have no local boards of managers. In Ohio this board is called the State Board of Administration. It is a bi-partisan body consisting of four members, each of whom receives \$5,000 a year for full-time service. The term of office is four years. Members are appointed by the Governor with the advice and consent of the Senate. In spite of the fact that by far the larger number of persons in the twenty-one institutions under the control of the Board are suffering from serious forms of illness, the law does not require that a physician shall be one of the members, nor even for any medical consultation in the work of the Board. The medical superintendents of state institutions are directly under the Board. When the medical profession demanded representation, a physician was appointed to the Board. Business administration is centered in the Board so there are no stewards in the hospitals. This places a heavy burden of business detail upon the medical superintendents of these institutions. There is no provision for coordinating the scientific work of the hospitals, no central institute for research and training and no feeling on the part of the Board that it is responsible for leadership in the very important and complex relationships which mental diseases and mental deficiency bear to social, health and educational problems. A harsh and unwieldy commitment law is permitted to remain on the statute books as far as any action initiated by the Board is concerned, and the whole system of administration is based upon the conception that the duty of the state toward its citizens with mental diseases and mental deficiency begins and ends with institutional administration. Of course the period of institutional treatment represents only one phase of a life-time problem in the insane and mentally defective, and no administrative mechanism which limits its interest to the institutional phase (and practically only to the business side of this phase) can establish clinics, develop social service and after-care for patients and take leadership in practical work for prevention. In states which have special medically led commissions to direct the state care of the insane and mentally defective, all these activities constitute a large part of the service rendered, while at the same time business administration is competently directed. At present many states are firmly committed to the "Board of Control Idea," but in several, efforts are being made to correct the serious deficiencies of such a system by appointing physicians as



special advisors in the part of their work that deals with mental diseases, mental deficiency and tuberculosis. Even with such modifications this system does not permit the kind of work in treatment and prevention that modern conception of mental diseases and mental deficiency makes obligatory upon a state that faces these problems squarely and seeks to do more than temporize with them.

### Laws Relating to the Insane, Mentally Defective and Epileptic

**INSANE**—The laws of Ohio require that when any person is believed to be insane, or because of insanity is "dangerous to the community at large," a formal complaint be made, a warrant issued for the apprehension of the alleged insane person, and the accused brought before the court or examined by the Probate Judge out of court. This procedure emphasizes the legal side of mental disease, adding a considerable burden to the already troubled minds of the unfortunate patients, who often are perplexed that they should be arrested when they have committed no crime. As stated, the judge may review the case at the residence of the patient or elsewhere, but naturally this is seldom done. The judge obtains such evidence of the patient's insanity as he deems necessary and must cause a certificate to be made by two medical witnesses. Being satisfied that the person is insane, the court applies to the superintendent of the state hospital, asking that the patient be received. Upon notice from the superintendent, the judge directs the sheriff to transfer the patient to the state hospital. A suitable female assistant must accompany him if the patient is a woman. If there is a vacancy in the county's quota at the hospital, the Probate Judge may commit an acute case without notice. If the relatives of an insane person desire to take charge of him they may do so with the court's approval. Voluntary commitments are permitted for not more than sixty days, and no hospital is permitted to care for more than five voluntary patients at one time, nor for any if the county's quota is already full. There is no provision for emergency commitments.

Patients may be allowed out on trial visits not exceeding ninety days in length. These visits are made under rules prescribed by the Board of Administration, but the decision, except in criminal cases, rests in the hands of the superintendent. When an insane criminal is in condition suitable for discharge, the prosecuting attorney of the county whence he came must be informed. The question of insanity may be introduced as a defense in criminal actions and determined by the jury sitting in the case or by jury specially called, in which event the prisoner is usually transferred to the jurisdiction of the Probate Court so that he may be placed in a state hospital. The trial judge may commit him if his release is deemed dangerous to the public peace or safety. Similarly if a person before a court in any capacity appears to be insane, a jury may be empowered to decide his mental state, or he may be transferred to the Probate Court for its determination. The latter is the usual procedure. Criminal, convict, dangerous and "incurable" insane who cannot be conveniently cared for at other hospitals for the insane, and insane persons who have previously been convicted of certain serious crimes are cared for at the Lima State Hospital for the Criminal Insane.

None but residents of the state can be received into a state hospital, except upon order of the State Board of Administration.

The Ohio law does not reflect, as the laws of many other states now do, the great changes in medical and public opinion regarding mental illness and those who suffer from it that have come about during the last generation. The provision for a quota for each county legally recognizes failure to provide free state care. The requirement of personal appearance before a judge imposes the hardships of a quasi-criminal procedure upon sick people. The provision limiting the number of voluntary cases to five is not observed by most hospital superintendents. In the absence of vacancies for cases waiting admission after court commitment such a provision serves, nevertheless, to restrict the use of the most desirable type of commitment procedure.

The laws relating to the insane should be thoroughly revised so as to permit personal appearance or even service to be waived, to provide for emergency commitment and commitment for observation, and to remove the restrictions thrown about voluntary admission. The law should provide for attendants from the state hospitals going to the homes and bringing in new patients, thereby eliminating the sheriff entirely.

**MENTALLY DEFECTIVE AND EPILEPTIC**—Proceedings in committing the feeble-minded and epileptic are practically identical with those followed in cases of insanity, and there is the same emphasis on a hearing before a judge. There is the same provision for the reception of epileptics as voluntary patients, and parents and guardians may voluntarily ask that their charges be admitted into the Institution for the Feeble-minded at Columbus, Ohio. The Board of Administration may also make commitments to that institution. Medical certificates for these institutions and the state hospitals are like.

With the mentally defective and epileptic, as with the insane, the object of the commitment law should be to make the institutions readily accessible to those who need their services, throwing around the procedure only such safeguards as experience has shown to be necessary to prevent abuse. The self-respect and welfare of those committed should be the chief consideration. In the care of the mentally defective and epileptic, voluntary commitment should be so provided for as to become the method of election.

### State Hospital for Mental Diseases

There are six civil state hospitals and an institution for the criminal insane in Ohio. Hamilton County (Cincinnati) has a hospital as large as one of the state hospitals, which is owned by the county but maintained by the state. The state hospitals at Cleveland, Columbus, Dayton and Toledo receive nearly all their patients from the cities in which they are situated. In many states the great public institutions for the insane are remote from large cities. The Ohio plan has several marked advantages. Few states in the country have an arrangement whereby a system of state psychopathic hospitals forming departments of existing state hospitals could be put into

operation so readily or be likely to operate with as much success. The favorable location of these hospitals not only renders them readily accessible but also makes it possible to carry on after-care supervision with great facility. The over-crowding, understaffing, low per capita allowance for maintenance, and the unsympathetic control by a board of business administration, makes it impossible, however, to take advantage of these favorable circumstances.

THE CLEVELAND STATE HOSPITAL owes its origin to a gift of a tract of 100 acres lying within the city limits by Thomas Garfield and his wife, for the purpose of establishing a hospital for the insane. The reception of patients commenced in 1855. The growth of the city has made land so valuable that the hospital cannot expand. As the buildings are old and in poor repair it would be sound economy to abandon them, retaining only a reception hospital, acute medical and surgical hospitals and a diagnostic clinic. Such a center for intensive medical treatment of not more than 500 beds would provide facilities for an institution of 1,500 which should be situated within twenty miles from the city where land is cheaper and more outdoor life possible. The experience of states in which full state care is provided shows that the ratio of patients to population under such conditions is approximately three to one thousand. In states like New York and Massachusetts in which full state care has been provided for many years and people make the fullest possible use of the state hospitals, the ratio rises to four per 1,000. Every group of 500,000 people requires a state hospital of 1,500 beds. Therefore the district in which Cleveland is situated (Cuyahoga, Lake and Geauga Counties) requires a second state hospital, which, like the first, could be utilized for the intensive medical treatment suggested. With the growth of the city these hospitals could be increased in size to 2,000 each or possibly to 2,500. When the latter number is reached, with the intensive treatment group, there will be 5,500 beds, which would provide for a city of 1,650,000 population. No provisions short of these will relieve the situation that exists and end the reproach of detaining mental patients in such places as the City Infirmary, because the state has made too little provision, and of sending them back to their homes because the courts will deal with only such cases as can be provided for.

Cleveland gets but little relief from other state hospitals. When visited by the Survey investigator the Cleveland State Hospital had 1,737 patients. There were only 55 patients from Cleveland in all other state hospitals, except that for the criminal insane at Lima, where there were 219. The ratio of patients to population in the whole state was one to 423.5 and the ratio of patients from Cleveland to the population of the city, one to 497.3. It is obvious that Cleveland has 17 per cent fewer beds than its quota in the state hospitals. The 1,737 patients in the Cleveland State Hospital were occupying space allotted to 1,450, causing an overcrowding of nearly 20 per cent. The original allotment is based upon a distressingly small floor space and it is not difficult to picture the conditions that exist when this space is occupied by 20 per cent more patients than the number for which it was designed. Even to maintain the population with this amount of overcrowding and to receive new cases it is necessary to send out many patients still unrecovered. No policy could be more unsound economically *than this*. The number of physicians in comparison with the number of

patients in this hospital is one to 485, one of the lowest ratios in the United States and little greater than that of physicians to the general population in the city of Cleveland. If one disregards entirely the need of physicians to treat the *mental diseases* from which the patients suffer, he can gain some idea of the standards of medical work possible, when he realizes that these patients are so ill physically that 10 per cent die each year. The population of a hospital gives a less adequate idea of the amount of medical work that has to be done than the admission rate. In 1919, 617 patients were admitted to this hospital. No state hospital of the same size in the whole country received so many. The superintendent, who is a well-trained physician, receives only \$2,500 a year, which is less than the amount received by a recent graduate in medicine as junior assistant in some other states. The appropriations for maintenance are in proportion. Few institutions in the United States spend as little for their patients' maintenance and care. In 1919 the rate per annum per capita for medical, surgical and laboratory supplies was 19.4 cents. In this hospital approximately 180 patients die every year. If the entire appropriation for medical, surgical and laboratory supplies had been expended last year upon these 180 patients, each would have had \$2.20 worth of such sick room necessities during his or her last illness. The superintendent is trying in the face of these conditions to make his institution a hospital in fact as well as in name. He plans to re-institute a training school for nurses, develop a system of after-care and make the best possible use of his meagre staff and equipment. He will inevitably fail if the people of Cleveland are unable to induce the legislature to change the policy of neglect that keeps its work upon the asylum level.

### State Institution for the Feeble-minded

The "Institution for the Feeble-minded," the only one in the state, was established in 1857 and opened in August of that year in rented buildings in Columbus, Ohio. It removed to its present location in West Columbus in 1868. In 1898 the legislature appropriated funds for the purchase of the Custodial Farm of 1,248 acres at Orient.

June 30, 1918, there were 2,264 inmates. Additional buildings about to be opened and others immediately constructed will care for 864 more, giving accommodation for 3,128. This is the largest institution of the sort in the world.

The state of Ohio is hardly doing more than touching the surface of the problem of mental deficiency. With a population of 5,393,000, a conservative estimate would place the number of feeble-minded in the state at at least 21,000 (four per thousand), of whom not less than 10,000 require care in special institutions. Provision is made for less than one-third of this number. What of the other two-thirds who should have such care? Many of them, as feeble-minded children in the public schools, juvenile courts, reformatories and orphanages, or as feeble-minded adults in the county jails, state prisons, criminal courts, venereal clinics and almshouses, are yearly a source of vast expense and the cause of untold sorrow.

With an estimated population of about one million, Cleveland District has about 4,000 feeble-minded persons, each of whom possesses potentialities for delinquency and dependency that justify a serious effort on the part of public authorities to recognize and deal properly with the problems these individuals present.

The advantages of early recognition and diagnosis, intensive special class training, and either wise and careful supervision out in the community or adequate institutional care, should be offered to each feeble-minded child in the state.

It is not enough to place these defective children in special classes for a few hours of the day over a period of a few years, and then suddenly dump them into the community without proper oversight or supervision in early adolescence—the most unstable and critical period of life even for those not so handicapped mentally. The sad combination of the defective's childish mind and his adult years inevitably brings him into conflict with laws and rules of conduct which have been devised for persons whose minds as well as bodies are those of adults.

Much of the benefit to be derived from special classes in Cleveland is being lost through lack of proper oversight after school hours and adequate supervision of the child in the community. The special class should be used not merely to relieve the grades of a drag and the regular grade teachers of an apparently hopeless burden, not for awakening interest and developing the general intelligence of the child, but to prepare and fit the defective to do something useful in life.

Some state authority should be charged with the supervision of all mental defectives who are in need of, but not receiving it. On leaving the special class, employment suited to his vocational interest and aptitudes should be secured for each of these children. All those unable to profit by special class training or incapable of being adequately supervised in the community, should receive institutional care, but those defectives whose character, make-up and personality give them a definite community value, who are self-supporting, and are neither a danger to themselves nor the general public, can and should be handled satisfactorily under outside supervision.

The fact that many high grade defectives, after prolonged institutional life and occupational training, can be paroled with perfect satisfaction into the community, has now been well demonstrated by Dr. Fernald at Waverley, Dr. Wallace at Wrentham, Dr. Bernstein at Rome, and many other leaders in work among the feeble-minded. Dr. Fernald recently made a study of all male patients paroled from Waverley in the last twenty-five years. It was found that the great majority of these boys had never been arrested, never been in court, never had children, but were law-abiding, self-supporting citizens. Few had married. The economic saving through a well-developed parole system is enormous but it is necessary to emphasize the point that such supervision must rest upon a carefully made diagnosis by experts. With this a *period of institutional training is usually, but not always, required.*

Two outstanding needs deserve mention: (1) identification and special class training, with proper after-care and supervision for all children in the state who are capable of receiving it; (2) increased institutional provision.

The first requires a comprehensive mental deficiency law for the state and the careful upbuilding of the local mechanisms by which such a law may be made effective. The appropriation of \$650,000 which is available will procure the site, provide for water supply, sewage disposal, power plant, administrative and service buildings for a new institution, but at least \$1,350,000 more will be needed for an institution housing 2,000 patients. With such provisions Ohio will still be behind other states in the number of beds compared to the general population, but, with two such "parent" institutions, extension by means of colonies may be cheaply and efficiently made.

### State Hospital for Epileptics

The Ohio Hospital for Epileptics at Gallipolis, opened in 1893, was the first institution in this country for the care of epileptics. The example was followed in many different states. The census of this institution at the end of the last fiscal year was 1,587. On April 2, 1920, there were 191 patients from Cuyahoga County. This number represents a ratio much less than that which the population of Cleveland bears to that of the whole state, but cities have many resources in their dispensaries and clinics for the treatment of epilepsy, and in the absence of full state provisions it is not unfair that the cities should have a smaller proportion of the beds available in state institutions than rural communities. Additional provisions for 456 patients are here being made. A second institution of this kind is already needed.

Formerly a special class for epileptics was maintained in Cleveland, but it was discontinued for reasons that could not be ascertained. Epileptic children have needs that cannot always be met in the special classes for the mentally defective. Although many of them are mentally defective from birth or are dulled intellectually by their disease, there are others suffering from epilepsy who are normally bright. Their seizures make it necessary to exclude such children from the grade classes, as nothing is much more distressing for other children to witness than a severe epileptic convulsion, but they are capable of carrying on grade work. The result is that many leave school altogether at an early age and, in addition to the heavy burden of their epilepsy, carry the additional one of illiteracy. It would seem that in a school population of 144,197 several special classes for epileptics would be amply justified.

### Bureau of Juvenile Research

The Bureau of Juvenile Research was established on July 1, 1914, under the following broad provision of law:

*"All minors, who, in the judgment of the Juvenile Court, require state institutional care and guardianship, shall be wards of the state and shall be*

committed to the care and custody of the Ohio Board of Administration, which Board thereupon becomes vested with the sole and exclusive guardianship of such minors." (Ohio G. C., Section 1841-1.)

The Board of Administration commits these minors to the Bureau of Juvenile Research for study and classification and is required, after their condition has been determined, to "then assign the child to a suitable state institution or place it in a family under such rules and regulations as may be adopted." The Board of Administration has authority to transfer minors from one institution to another upon proper cause with the proviso that "except as otherwise provided by law, no person shall be transferred from a benevolent to a penal institution." This permits the Board to transfer a child from the institution in its jurisdiction to the Bureau of Juvenile Research and later to re-transfer him. Further provision is made for the reception by the Bureau of minors from public institutions not supported by the state, from private charitable institutions, or from the custody of legal guardians, upon terms deemed proper. The counties liable for the support of these minors are required to pay the expenses of their transportation.

The special defect of this generally admirable law is that it provides for the review of cases that have already been passed upon by the courts. Obviously, the examinations are most needed before trial rather than after commitment. It will be noted that only cases which require institutional care are to be sent to this Bureau by the Juvenile Courts. This restriction is undesirable, for the hope of correcting delinquent trends in the mentally defective and of dealing successfully with psychopathic or psychoneurotic children, lies in making the greatest efforts in the early stages before departures from normal behavior are so striking that they are easily recognized, and before it is certain that institutional care is the most desirable measure. Those interested in the problem of conduct disorders in childhood desire to have all Juvenile Court cases examined with regard to the mental factors in their delinquency. The present director of the Bureau, Dr. H. H. Goddard, has well said:

"In a great many cases, the first offenders are as feeble-minded or psychopathic as others and there is no good reason why we should wait until they have made a second or third attempt before we should recognize their condition and proceed to treat it."

The Board of Administration and the Bureau of Juvenile Research interpret this law in the broadest possible way and endeavor to render as much service as possible to the children sent by parents or institutions. The work of the Bureau has been much handicapped by insufficient funds. Good buildings with a capacity for 150 patients exist but there is sufficient money to care for only 40 at a time, and at present there are less than that number at the Bureau. Its work is very much embarrassed by the fact that the Institution for Feeble-minded is overcrowded, so that a mentally defective child must wait, after his examination, until there is a vacancy before he can be admitted, and further embarrassment is due to the fact that there are no facilities in the state for the treatment of psychopathic and psychoneurotic children.

The Director supplies the following concise statement of the personnel in his organization.

"The organization at present is as follows: director, chief psycho-clinician, who is responsible for all under mental diagnosis; two associate clinicians, who are next to the chief in ability and also capable of making diagnosis; then two assistant psycho-clinicians of somewhat less experience, but able to make accurate mental tests and submit recommendations or suggestion on diagnosis; a physician and two nurses for the care of the physical side; a chief clerk, record clerk, three stenographers, one superintendent of cottages, superintendent of grounds, two attendants and the night watch."

We have much doubt as to the wisdom of dismissing so lightly the "physical side" of such complex problems as those which come to the Bureau of Juvenile Research for solution, and of dealing with all the mental factors from a purely psychological approach. Even if the defectives present no special problem with which the psychiatrist is best equipped to deal, the psychopathic, psychotic and psychoneurotic children must present many difficulties upon which mental medicine has some light to throw.

It will be most unfortunate if this highly important experiment station fails to render the service of which it is capable through lack of sufficient funds. When one contrasts the few thousands of dollars required for its maintenance with the millions that are almost blindly expended in dealing with the consequences of our unintelligent way of approaching conduct disorders of childhood and adolescence, it is obvious that considerations of economy alone would demand generous support of this Bureau.



## Courts and Correctional Agencies

**M**ENTAL diseases and mental deficiency differ from other problems of health and medicine because of the fact that their diagnosis, management and, to a very large extent, the success with which they may be dealt by physicians, teachers, nurses and social workers is determined by courts and correctional agencies. There is no doubt that these disorders come to attention much more frequently for other reasons than that of disturbance of conduct. Such disturbances, when they do occur, however, are so important socially and sometimes so tragic in their consequences that mental disorders generally are dealt with by a legal mechanism suitable for only a small percentage of all persons who are mentally ill. The physician, therefore, has to call upon the courts when mental cases are brought to his attention, even though there is no question whatever of public order or safety. Very often, in other cases, the courts have gone a long way in determining the future of mental patients before the advice of physicians is sought at all.

### Courts

**PROBATE COURT**—The Probate Court is especially charged with the duty of dealing with mental patients. The Commitment Law of Ohio has already been referred to (page 468). When an affidavit alleging insanity has been presented, the Judge orders a "suitable person" usually the sheriff or a deputy, to bring the patient to court. Patients are also referred to the Probate Court from other courts in which they have been found to be insane but which are not empowered to commit to institutions. In such cases the function of the Probate Court is only that of commitment, the issue of insanity having already been decided.

In order to protect himself from ill-advised or improper applications for the commitment of a patient the Probate Judge has attached to his court two examining physicians who have had experience in hospitals for mental diseases. These psychiatrists interview the friends of the patient, examine the patient personally, and make a report, usually verbal, to the Judge. The Women's Protective Association sometimes makes social investigations for the court. If this preliminary examination shows that the patient suffers from a mental disorder, the psychiatrists make out a medical certificate and the patient is committed forthwith. If the Judge deems that such action is inadvisable the case is dismissed. If the examination is inconclusive and observation is required to establish the diagnosis the Probate Judge commits the patient to the "Detention Hospital," that is, to the mental wards of the City Hospital, (page 446). Previously this was not possible, but some years ago when the wife of a lawyer went through the trying experience of commitment the law was amended so as to permit this practice. The Detention Hospital is used not only for such observation cases but for those "whose insanity is likely to be temporary" and all "insane persons who cannot be committed to or received into the State Hospital." The overcrowding at the Cleveland State Hospital makes the latter procedure necessary in many cases, but the overcrowded and unsatisfactory state of the Detention Hospital often makes it difficult to find any place for those

who urgently need care. The result is that people are advised to take their mentally ill relatives home again and thus treatment is deferred—a thoroughly uneconomic and unsound practice. The Probate Judge may also commit to the department for mental patients in the City Infirmary at Warrensville (page 465) or, in criminal cases, to the jail hospital (page 464).

It is often the case, when the law is harsh and public facilities for observation and treatment inadequate, that kindness and sympathetic cooperation on the part of those who administer the law minimize the distress and humiliation that come to patients. This is the case in Cleveland. The Probate Judge is considerate, realizing the heavy affliction that mental disease brings to the patients or to their families but, although he attempts to soften the phases of commitment that smack of criminal procedure, the fact that a person "suspected" of having a mental disease is produced in court and usually brought there by a sheriff creates an atmosphere that in many other states has been eliminated from the admission to hospital of persons suffering from mental illness.

When a patient is committed the Court becomes a supplicant to the State Hospital in the effort to secure admission. The superintendent of the hospital exercises full jurisdiction in this. Preference is given to patients who are having the greatest difficulty in getting on in the community. Those with mild mental disorders are rarely received when application is first made. Practically no other course is possible but the great disadvantage of this method of solving the difficulty lies in the fact that mild and early cases afford the most promising field for successful treatment and many of the severe and late cases that become a permanent charge upon the state could make a full or a "social" recovery were treatment available in time.

The cost to the city of the medical examinations and other services rendered in the commitment of mental patients in the Probate Court is not ascertainable from any published reports. The Clerk of the Court kindly permitted the examination of the check book stubs for the period of three months ending September 10th, 1919. This quarter is somewhat lighter than the other three and so an estimate of the yearly cost based upon this examination would give a total less, rather than more, than is actually the case. Medical fees during the period amounted to \$2,209.00, an annual rate of \$8,836. If these examinations were made in the mental wards of the City Hospital under such conditions as those that may be expected to exist when that institution is transformed into a real City Psychopathic Hospital, such a contribution would go far toward paying the salaries of all the full-time psychiatrists needed. In such a hospital expert observation would yield medical and social facts of great value in determining the best action to be taken in each case. If the present difficulty in securing prompt admission to the state hospitals continues, as it must for several years in spite of the most energetic efforts to correct it by new building, the selection of cases for commitment or for return to their homes, with or without outpatient supervision and treatment, would be done in a more efficient manner than is possible with the facilities that now exist. As it has been held that the mental wards of the City Hospital constitute a place to which insane patients may be legally committed, the physicians there cannot, obviously,

take part in the commitment of people to their own institution. In order that the proposed City Psychopathic Hospital in connection with the City Hospital may operate to the greatest advantage, it is necessary that this and other provisions of the law be changed so as to permit commitment there only for observation and temporary treatment on physicians' certificates or the orders of any magistrate. This method of commitment is followed with conspicuous success in New York City in the psychopathic wards of Bellevue and Kings County Hospitals in the commitment of more than 4,000 patients a year.

The sheriff receives \$1.71 for each patient conveyed to the Cleveland State Hospital. There were 567 such patients during 1919, for whose transportation he was paid \$969.57. For each mentally defective person sent to the Columbus State Institution \$22.83 is paid. Twelve patients were conveyed there during the same year at a cost of \$273.96, the remainder of the total of eighty-six being taken by relatives. Twenty patients were taken to the State Hospital for Epileptics by friends and six by the sheriff at a cost of \$247.38 or \$41.23 each. The warrant to arrest a patient entails a fee of \$1.64. The number of such warrants issued was not ascertained.

To those who are accustomed to methods more in accordance with those used with other sick persons, this handling of children and adults with mental diseases, feeble-mindedness and epilepsy by sheriffs and court attendants is abhorrent. It is a relic of a period in the development of the public attitude toward illness that has no more place in an enlightened community today than Salem witchcraft. The simplest, kindest, and least expensive method is to have nurses and attendants from the institutions to which patients are to be committed come for them and convey them there by the skillful and kindly methods that their training so admirably fits them to use. No other method would be tolerated by those who had seen the one suggested in actual operation.

**MUNICIPAL COURT**—Only a relatively small proportion of all offenses for which people are arrested are serious ones. This is true of those committed by mentally defective or psychopathic persons as well as by those with normal mentality and so the lower courts, which in every city deal with a vast amount of delinquency, have to do much more than the higher courts with persons whose asocial conduct is dependent upon abnormal mental states. In the Municipal Court of Cleveland the relationship existing between delinquency and psychopathic conditions are not so fully appreciated as in some other cities nor do they receive as much weight in procedures of the court and in the dispositions made of offenders. The work of the Municipal Court is evidently carried on with earnestness and a broad spirit of tolerance but few persons brought before it receive an expert psychiatric examination. When insanity is offered as a plea or some abnormal mental condition is apparent to the court or to the social workers, patrolmen or others connected with it, prisoners are sent to the Probate Court for disposition and there they receive a psychiatric examination. There seems to be a belief that laymen can pick out individuals who require a mental examination and *that* insanity or mental deficiency that does not manifest itself in ways thus

apparent does not require to be taken into consideration. During a visit to this court a girl who had escaped from an institution in Michigan was under examination. Although to a psychiatric observer there seemed to be indications of mental deficiency which would warrant a careful examination, the Court and the Probation Officer were quite confident that the girl had excellent intelligence and was simply "sulky" and "tough." It is asserted that such conclusions are founded upon long experience in dealing with delinquent types but it must be remembered that this experience is not checked by studying the results of examinations made elsewhere by those specially trained and it is difficult to see how it can do any more than to crystallize connections of normality and abnormality already formed. In Boston, Chicago and Philadelphia psychiatric clinics in connection with the Municipal Courts have been in successful operation for a considerable period of time and, in the opinion of the magistrates presiding over those courts, constitute a practical adjunct of the greatest value.

The Probation Officer, Mrs. Callaghan, realizes that her work would be aided in many cases by access to psychiatric advice. She has charge of all persons placed on probation, paying special attention to the women, and renders other assistance to the court when women are concerned. Mrs. Callaghan has many cases examined by Miss Claire Walters who conducts the psychological examinations at the Boys' School and in cases that are to be sent to the Probate Court she makes notes that are very helpful to the psychiatrists attached to that court.

In a city as large as Cleveland a psychiatric clinic in connection with the Municipal Court would be able to render valuable service. Nothing is more wasteful and ineffective than the method of dealing with permanent mental deficiency or psychopathic conditions by repeated trial and commitment to correctional institutions. Where the actual results of this method have been carefully studied it has been found that, in many instances, the cost to the community of dealing with one such individual by these methods is greater than that of maintaining an efficient psychiatric clinic for a period of years. With a modern City Psychopathic Hospital as a center for all such activities, a psychiatric clinic could be established in the Municipal Court which would have back of it all the scientific resources of the Psychopathic Hospital and its facilities for investigation by those specially trained in this kind of medical social work.

**PAROLE BOARD**—The Parole Board which consists of the Director of Public Welfare and the Probation Officer deals with skill and discrimination with cases that come before it. From ten to fifteen prisoners come before this Board each week and there are usually about seventy-five cases on parole. This number of cases requires more time for thorough investigation than one probation officer can give, and the work of the Board would be much aided if the probation officer had more assistance. In the numerous instances in which mental deficiency or some psychopathic condition is the cause or a very important factor in the delinquency of prisoners who come before the Parole Board there is no psychiatric report. The great value of such reports in dealing with these prisoners would amply justify provisions for mental

examinations as a routine measure in all persons committed by the Courts to the House of Correction. When a modern City Psychopathic Hospital is established there should be stationed here another psychiatric "outpost" consisting of a psychiatrist, a psychologist and a social worker who could give from one to three days a week to this work.

**JUVENILE COURT AND THE DETENTION HOME**—The Juvenile Court of Cleveland has long been known as a progressive agency conducted in accordance with enlightened ideas regarding the management of delinquency among children. The present judge who, in addition, presides over the Domestic Relations and Insolvency Courts, has been at the head of the court for more than twenty years. It is housed, unfortunately, in the same building as the criminal courts, but in the new Criminal and Juvenile Court building which is being erected it will have a separate entrance and contact with the criminal courts will be avoided to a large extent.

Many avenues are open to the Juvenile Court for securing information regarding the children brought before it. Social workers investigate the family and personal histories and the Clearing House cooperates in securing such information, especially regarding dependency or delinquency among families. The important relationships that juvenile delinquency bear to mental deficiency and other disorders of the nervous system are well understood and many efforts are made to secure psychiatric and psychological examinations that will throw light upon this subject in individual cases. Miss Claire Walters who is attached to the Boys' School makes intelligence tests. At her suggestion the services of the psychiatrists attached to the Probate Court are employed, children often being sent to them for mental examinations. At the Boys' School and the Detention Home (discussed below) children are observed while their cases are pending or while awaiting placement but, of course, this observation is not made by those trained to detect the most significant alterations in behavior. The Bureau of Juvenile Research is by far the most valuable facility possessed by the court in dealing with issues, but, as was stated in the discussion of that institution, it receives children for scientific study *after* instead of *before* the issue of institutional commitment has been decided.

The Juvenile Court can dispose of children brought before it in a number of different ways. Warning or reprimanding the children, warning or fining their parents and parole to a parole officer are the methods employed in by far the greater number of cases. Boys may be committed to the Boys' School, the State Industrial School for Boys, or to the Cleveland Farm School. Girls may be committed to the House of the Good Shepherd or to the State Industrial School for Girls. These institutions will be described a little later. They receive many mentally defective children, sometimes those of relatively low grade, and, in consequence, the tasks for which they were created are less efficiently performed. This is largely due to the absence of fully adequate facilities in the court for scientific mental diagnosis but were such facilities available many children would still have to be disposed of *in this way* on account of the very inadequate state provisions for institu-

tional care of the mentally defective and the lack of a mental deficiency law under which an effective system of extra-institutional supervision and guardianship can be constructed.

When it is apparent from the histories and the results of psychiatric and psychological examinations that children are mentally defective and require institutional care the Judge of the Juvenile Court makes every effort to secure admission to an appropriate institution. He can transfer the case to the Probate Court for commitment, to a state hospital (which is rarely done), commit directly to the State Institution for the Feeble-minded, the State Hospital for Epileptics, or to the custody of the Board of Administration for transfer to an institution upon recommendation of the Bureau of Juvenile Research.

This court needs a psychiatric clinic to help it deal with the perplexing and enormously important problems in human conduct that come before it. Here are to be observed the first difficulties that subnormal or psychopathic children experience in making the adaptations that are required for socially acceptable behavior. Upon the methods here employed for checking undesirable adaptations and substituting desirable ones depend not only the future happiness of children and of the families of which they are members, but the success or failure that the community will later achieve in dealing with much adult delinquency and crime. The time has long since passed when it was necessary to defend utilizing to the utmost in Children's Courts the sciences that have to do with the deep springs of conduct. Practical demonstrations by this time, extending over a number of years, justify the statement of one Judge of a Juvenile Court that he would not be willing to continue his work if deprived of the services of his psychiatric advisor.

The maintenance of a psychiatric clinic for the Cleveland Juvenile Court should constitute one of the broader "outpost" duties of the proposed City Psychopathic Hospital. Backed by the resources of such a hospital, with its highly trained personnel, ward service for children, laboratories and well organized social service, such a clinic in the Juvenile Court would be much more useful than a small clinic acting independently.

**DETENTION HOME**—An indispensable adjunct to every Children's Court is a place where children may be safely detained while their cases are under investigation or while they are awaiting disposition. In Cleveland this is provided by the Detention Home, consisting of offices in a remodelled frame dwelling and quarters for the children in a fireproof addition. The building is sanitary, well designed for the purpose that it serves and regarded as very satisfactory. Recreation rooms in the building and a playground outside have been provided. Adjoining property has been purchased so that dependent children may be placed in a building entirely separate from that in which delinquents are quartered. Changes must be made in this structure to eliminate a fire hazard but, even with present facilities, dependent and delinquent children are provided for separately. The total capacity of the Detention Home is 135. The usual population is from 100 to 140. On April 1, 1920, there were ninety-nine present—sixty-nine boys and thirty

girls. On that date fourteen boys and six girls selected at random were carefully examined mentally. Nine, or 40 per cent were found to be mentally defective.

The stay of the children in the Detention Home is necessarily short as they are detained only while their cases are pending. During this brief period, however, education is not neglected. Boys attend the Boys' School, close at hand, and girls receive instruction in the home building. Academic subjects are taught and some instruction given in domestic science and manual training. There are many evidences of kindness, sympathy and understanding on the part of those responsible for the operation of this institution.

When a psychiatric clinic is included in the resources that the Juvenile Court has at its disposal, the observation of special cases in the Detention Home will yield very important psychiatric information.

### Correctional Agencies

The public correctional agencies of the state were not examined in this survey. For children there are the Girls' Industrial School near Delaware and the Boys' Industrial School near Lancaster. The Boys' Industrial School receives boys between the ages of ten and eighteen. They may be retained until the age of twenty-one. The Girls' Industrial School was established in 1869 for "the instruction and reformation of incorrigible girls between the ages of nine and eighteen." A report published by the Bureau of Juvenile Research in 1915 showed that more than 50 per cent of 1,000 children examined in the two schools were mentally defective.

HOUSE OF CORRECTION—The House of Correction, situated on the same reservation at Warrensville as the City Infirmary, the Tuberculosis Sanatorium and the Girls' Home, is a modern building, clean, sanitary and well conducted. All Courts, except the Juvenile Court, commit to the House of Correction. Only misdemeanants are received, the maximum sentence being one year's imprisonment and a fine of \$500. Prisoners may be paroled at any time in the discretion of the Director of Public Welfare. During 1918, 4,986 men and 695 women were admitted. In the year following the male admissions fell to 3,002 and the female admissions to 408. The greatest number in the institution at any time was 662 men and 88 women in 1918 and 748 men and 81 women in 1919. It is seen that the greatest decrease in 1919 was in prisoners serving the shortest terms. This is ascribed chiefly to prohibition. During the last six months it has been still greater than previously and the average daily population is less than forty. On the women's side with a capacity of 150 the average daily population in 1919 was only fifty-two. The best use to make of the vacant parts of the building is receiving much thought. There are many agencies that could make use of increased institutional facilities but few care to use a penal institution. It has been suggested that it be used as a convalescent hospital for patients from the City Hospital, for an isolation hospital for venereal patients, and for the care of feeble-minded women of child-

bearing age pending proper provision by the state. The desirability of the city making provision for the mentally defective is open to serious question. However temporary these provisions may be intended to be, experience shows that they are exceedingly likely to be permanent. There is general agreement that the institutional care of the mentally defective is the function of the state. Granting that some increased provisions by the state will soon be made available, it is certain that if Cleveland makes the provisions at the House of Correction suggested, the new beds in state institutions will be used first for residents of other localities in which it may be assumed that the pressure for room for such patients is quite as marked as in Cleveland. By far the wisest thing to do during the period of waiting for the state to meet its deficit is to increase the facilities for community supervision and guardianship. If as much progress in this direction is made as the experience of other communities shows is possible, the need for institutional provisions may be found to be less than it would be if 1,000 or 2,000 additional beds in state institutions were suddenly made available at the present time.

Some of the statistics obtained regarding prisoners admitted to the House of Correction suggest a relatively high proportion of mentally defective individuals. The changing character of the population resulting from the great decrease in the number of prisoners convicted of intoxication and minor offenses growing out of alcoholism is indicated by the marked difference in the percentage of illiterates between 1918 and 1919. During 1918, when there were 1,123 admissions for intoxication—or 20 per cent of all admissions—the proportion of illiterates was 8.3 per cent. During 1919 only 471 prisoners were committed for intoxication, constituting 14 per cent of the total number of admissions. In that year the proportion of illiterates was 16.9 per cent. It is evident that formerly alcohol played an important part in the failure to make social adjustments which brought people to the House of Correction but that, in the absence of this causative agent, crime and delinquency are committed by persons less typical of the entire community. In such a group the feeble-minded will always be found in the highest proportion. This bears out the experience of other communities which have seen their problems of crime and delinquency change strikingly during the last ten years, first by the wider use of probation and parole which greatly shortens the terms of normal-minded prisoners without affecting in the same degree the mentally defective, and more recently by prohibition which lessens the number of accidental criminals and delinquents but does not affect in such a marked manner those whose offenses are due to more deeply seated causes of unacceptable social behavior.

Forty-seven men and seven women, taken at random and representing presumably the average population of the House of Correction, were examined mentally. Of this number five were found to have definite mental diseases and twenty to be mentally defective. Here, then, as in other types of institutions for the socially inadequate, we find a heavy proportion of those whose difficulties are due to mental defect or disease. It is obvious that it is useless to expect an institution of this sort, however efficiently administered, to accomplish much with individuals who have severe and often permanent



defects of the brain. Although there are no routine psychiatric examinations to determine the real nature of the mass of asocial humanity dealt with in this institution, there is a rough and ready practical recognition of the existence of an important problem in mental deficiency by those who actually come into contact with the prisoners. Many of the features in the daily routine of institutional life which experience has shown to be desirable indicate quite clearly that the limited capacity of the feeble-minded has been taken into account in the development.

**FARM SCHOOL**—Near Hudson, twenty-three miles from Cleveland on electric and steam railways, is the Cleveland Farm School. After some early difficulties this school got under way in 1903. It is conducted by the Department of Public Welfare. All commitments are made through the Juvenile Court. Usually there is a waiting list (twenty at present) and it is necessary to hold boys who have been committed to the Farm School at the Detention Home (page 481) where they remain under the jurisdiction of the Court and attend the Boys' School nearby (page 486). When children are admitted to the Farm School from the Detention Home all information that has been gathered regarding them is sent at the same time.

The school is a cottage institution, each cottage being under the charge of a master and a matron. The eight frame cottages were designed to accommodate 120 boys, but the present census is 150. The superintendent, who was formerly a teacher in the East High School, is energetic and progressive but is much hampered by insufficient funds. Academic instruction is under the direction of the Cleveland Board of Education. Four teachers, three men and one woman, are employed at an average salary of \$1,480 a year. School work continues throughout the year. Manual training and country sports provide work and recreation. It is said that it is possible to get on successfully with much more liberty than is feasible at the State Industrial School at Lancaster and that the results have been exceedingly good. At first it was thought that a short period of institutional life and a long parole would prove the best method but recently the period of institutional care has been lengthened with much better results.

In connection with the Farm School is a well organized Placement Department which not only places boys from this school but from the State Industrial School at Lancaster. Principals of schools have been instructed not to receive boys directly from either institution but to refer them to the Placement Department. The follow-up work thus provided for is carried on as efficiently as the funds and personnel available permit.

**THE GIRLS' HOME**—This is a wooden structure with a capacity of thirty-nine which is usually exceeded. An effort is made to receive only delinquent girls who are not sexually immoral. The matron and the teacher, who are doing notable work, are aware of the importance of detecting feeble-minded and psychopathic girls and modifying their training in accordance with their special needs, but are without the expert advice which is so essential. The practical type of instruction carried on is very well suited to the require-

ments of subnormal types if a careful mental examination were possible in order to indicate the kind of training most likely to be useful in each case. The examinations made indicate that such girls constitute about 20 per cent of those received. In this home, as in most such places for the temporary care of young people who are delinquent or dependent, the mentally defective require an undue amount of the attention from those in charge, and they do not receive a corresponding amount of benefit. Such institutions feel the full weight of the state's failure to provide adequately for the mentally defective. If the extra work, anxiety and interference with broad aims for individual reconstruction which is due to the burden of feeble-mindedness in such homes, refuges and shelters throughout the state, were fully known the legislature could not fail to be moved to make the provisions that have been promised so long.

**HOUSE OF GOOD SHEPHERD**—The House of the Good Shepherd is situated on Carnegie Avenue at 30th Street and is one of the notable institutions of the same name to be found in many large cities throughout the world. The girls received are divided into three groups. The group composed of delinquent girls committed by the Juvenile Court is the largest group, and when the institution was visited, numbered 120. Dependent girls form the next largest group and numbered sixty-five. There were forty girls in the "Magdalene" group.

The institution is conducted in accordance with a very definite point of view regarding the problems presented. It is felt that the atmosphere of religious influence and kindness which has been created by the devotion of the Sisters who conduct the institution can be depended upon to bring about better living and, in order to intensify the impression upon the minds of the girls that their entrance into the home is the fresh starting point, each girl receives a new and fictitious name by which she is known to everyone. Of course this renders it impossible to trace individuals through previous delinquent experiences or to establish their school records. The past histories of the girls are never discussed. There is great reluctance to have the diagnosis of mental deficiency or psychopathic conditions made and the children transferred to special institutions unless serious disorders of conduct makes such a step necessary. This is due to the intense devotion to their tasks which the Sisters have and a belief that no effort should be spared to bring about reformation even in those who seem the least promising. It results not infrequently in achievements in individual cases that would not be thought possible by those whose early and only recourse in difficult cases is the institution for the mentally defective and it represents the literal carrying out of a very honest and deep-seated conviction as to the basic factors in immoral conduct.

Twenty of the delinquent girls were examined mentally. One was found to be suffering from a psychopathic condition and eight were mentally defective. If the same proportion exists in this entire group the percentage of mentally defective girls is forty-five. Thirteen of the dependent girls were examined of whom five were found to be mentally defective and one suffering from a

psychopathic condition. This would indicate the same proportion in the entire group as in the delinquents. None in the "Magdalene" group were examined.

Academic instruction is carried on with training in domestic science, especially laundry work. Many girls who have been admitted to the home have gone out to live useful and orderly lives.

**Boys' SCHOOL**—The Boys' School, situated on Clinton Avenue at 29th Street, was organized in 1876 for "truant and incorrigible boys." At first it was called the "Special Unclassified School" and the object of its establishment was to segregate boys who "because of immoral conduct were a detriment to work of the regular classes." Later the present name was adopted. For a time the classes were conducted in several different buildings, but in 1904 they were united in the present building. There are two sources of admission—the city Board of Education through a certificate of the Assistant Superintendent of Education, upon application of the principal of the school which the boy attended, and commitment by the Juvenile Court. Boys sent from the Board of Education are known as "incorrigibles" and are a charge upon the city while those sent by the Juvenile Court are known as "detention cases" and are a charge upon the county.

Upon admission to the school each boy is first studied by the Placement Department of which Miss Claire Walters is the head. Miss Walters commenced her work as a teacher in the Boys' School in 1902. Since 1907 she has been attached to the Juvenile Court and since 1912 has been fitting herself by summer study for psychological work. The findings of the psychological tests constitute the chief factor in the subsequent disposition of the boys. Those who seem to be mentally defective are referred to the psychological clinic of the Board of Education for examination by Dr. Luckey and placement by Miss Steinbach. If not suitable candidates for the special classes they are assigned to classes in the Boys' School and observations upon their conduct are carefully made. There are eight grades and two classes for the subnormal. Besides the usual academic branches, manual training, weaving, printing and knitting are taught. The printing classes have been especially successful, many boys securing part-time employment outside. Sale of the products of the manual training shops provides funds for the purchase of materials. There are also night classes and the school term extends throughout the year. Most of the children from the Juvenile Court reside in the school and most of the incorrigible boys live at home.

There are no psychiatric examinations of the boys in spite of the growing body of information that is accumulating regarding the relation that exists between certain psychopathic conditions and disorders of conduct in children. Here is another favorable place for an "outpost" of the City Psychopathic Hospital when it is established.

### OTHER HOMES

Sixteen orphanages and other homes conducted by private agencies were visited. Although maintained chiefly for dependent children all have their problems of delinquency with which to deal.

In all the institutions for delinquents visited the total census on the dates that visits were made was 1,975. Of this number 375 children, chosen for the most part at random, were examined mentally by the psychiatrists and psychologists associated with the Survey. Fifteen of all those examined were found to have some psychopathic condition and fifty-six to be mentally defective. If the proportion of psychopathic and mentally defective children was the same in the total population of these institutions there were not less than 374 individuals who presented a demonstrable mental disorder or a definite mentally defective condition, by far the greater proportion of whom could have been cared for in special state institutions with advantage to themselves and to the community. It is doubtful whether any other institutions are as greatly impeded in their work by the presence of a large component of persons utterly unsuited for the environment in which they live as these homes and schools established and maintained for the care and training of dependent and delinquent girls and boys. Sometimes these institutions are harshly criticized for the quality of their work, but few people stop to realize that they are carrying a burden which the state should carry, and that many if not all the deficiencies in their work are due to this, the fact that a large part of all their slender resources has to be devoted to a task that is not primarily theirs at all and was not in the minds of those whose generosity made these institutions possible. It is easy to say that all mentally defective and psychopathic children could be excluded from institutions that were not intended for them, but no one who has seen the plight that many of these children present, coming as they do so often from homes presided over by feeble-minded parents, would have the heart to advocate closing the only doors that are open to them. But for the patience and humanity of those who work day and night with these children the real tragedy of the state's neglect to provide for the mentally defective would be far more apparent than it is. The imbecile girl, often with her illegitimate baby, the psychopathic boy with gravely delinquent traits that make him an unsafe companion for other children, the irritable epileptic child, all are taken into these homes and cared for in spite of the fact that their presence interferes seriously with work that would be difficult enough under most favorable conditions and that it is well known to the authorities of the home that little or nothing will be accomplished by methods that have been carefully devised for the training or social rehabilitation of the normal minded.

There are but two remedies for this condition which is to be seen in the institutions for dependents and delinquents in nearly all large American cities. The first is careful psychological and psychiatric examination and classification of all applicants for admission and the second is an adequate system of state institutional care and community supervision for those who are rendered socially inadequate on account of mental deficiency or unstable mental makeup.

## Mentally Atypical Children in the Schools

### Special Classes for the Mentally Defective

CLEVELAND has provided instruction in special classes for the mentally defective since 1905, when four classes were organized for "defective pupils," it being recognized that the provision for "backward children" made in 1893 was not suitable for those with more serious mental defects. At the present time such classes are well conducted under the general supervision of Miss Charlotte Steinbach who has had special training for this work. The psychological examinations are conducted by Bertha M. Luckey, Ph. D., with the assistance of Miss Florence Durst, a specially trained teacher.

Some of the special class centers are poorly provided for. They have only one or two rooms while others have four or five rooms which permit satisfactory classification. Each class has from 12 to 15 pupils. There are about 1,000 children in all the special classes. This constitutes somewhat less than one per cent of the total school population.\* Cooperation between the special class teachers and the grade teachers is good. When a child appears to the grade teacher to be atypical, incapable of doing the regular work and is being passed for promotion, the child is reported to the principal of the school and the name of the child sent to Miss Steinbach's office. The names come in at intervals, in long lists. Children are also referred by the Juvenile Court, the Humane Society and other welfare organizations, parochial schools and parents. These children are referred to Dr. Luckey, who conducts a careful psychological examination, usually in the dispensary of the school which the child attends. Children in whom a diagnosis is not possible with such an examination are brought to the office for special study. In such cases a carefully prepared history blank is sent to the school to be filled with all the information that can be obtained by a personal investigation. The careers of these children are followed as thoroughly as possible. In this the "Clearing House" in the building of the Associated Charities, under the Welfare Federation, is able to render valuable assistance by reporting, usually within three days, the names of other members of the family who have received relief or have been dealt with by the courts. During last year about 1,400 of the 2,916 children examined were found to be mentally defective. Investigation of these cases, through the Clearing House, showed that members of the families of the mentally defective children had Juvenile Court records in 466 instances. In 173 of these cases there had been two or more appearances in the Juvenile Court.

Some of the children who are of very low grade mentally are sent to appropriate institutions, when vacancies exist, without being placed in special classes at all. About half of all the children examined are thought to be simply cases of slow development or children in whom other causes than mental deficiency are responsible for failure in school. The rest are assigned to the special classes that seem to fit their requirements best. It is well understood that a single examination is not always conclusive and the lack of

\* Division of Health Report, March, 1920: public schools, 108,000; parochial schools, 36,197.

time for making repeated examinations is much regretted. Careful observation in the special classes by experienced teachers compensates in part for this defect. An effort is made to have it generally understood that admission to these classes does not necessarily imply a positive diagnosis of mental deficiency.

The teachers of the special classes are enthusiastic over their work and feel convinced that they are accomplishing something of real value. Some of the principals are a little out of sympathy with the special classes and express the opinion that more children who are "simply backward" should remain in the regular classes, even though larger and older than their classmates and that, for the others, the special classes are an inadequate substitute for permanent institutional care. The general impression in visiting the special classes is that there are many defective children in them who should be in state institutions and that their removal would enable the special classes to do their work with others more successfully. In the absence of proper state facilities, however, no one would seriously recommend that such children be excluded from the special classes. When more adequate state provisions exist and more defective children can be admitted to proper institutions, at least for a period of training, the classes will undoubtedly do better work and have more success in their highly important task of fitting the less defective children to take a useful part in the life of the general community with their defect in intelligence partly compensated for by having learned to do skillfully a few simple kinds of work for which there is a demand.

The salaries of the teachers in the special classes are the same as those of grade teachers, with the exception of head teachers who are responsible for the work of several others. These receive from \$50 to \$100 a year additional. At least ten of the special class teachers are on the regular substitute list and receive from \$4.20 to \$6.00 a day for their services, which is less than that received by grade teachers. The entire cost of the special classes during the year ending September, 1919, was \$71,989.70 for teachers' salaries and \$106.33 for supplies. It is doubtful whether any educational activity of the city yielded larger returns for the money expended.

More special classes, extra pay for teachers and better classification at special class centers are needed. In addition, more complete diagnostic facilities should be supplied. Although the schools have been fortunate in securing the services of so well trained a psychologist as Dr. Luckey, it must not be forgotten that more than a psychological examination and social investigation is needed to deal satisfactorily with the complex problems presented by a child whose mental development is defective or retarded. These conditions depend upon brain defects but not usually upon this cause alone or there are many closely related changes in the body as a whole and in other organs which have a great deal to do with both the rate of mental development and the degree to which it may progress. The assignment of a child to a special class is an event of great importance in the life of the child and of no little importance to the community. The examinations that precede such a step should be conducted in a clinic equipped to deal with both mental and physical issues. The great importance of disorders of the "ductless glands" (thyroid, thymus, pituitary, testicles and ovaries) makes it essential

that a complete physical study should play a large part in such an examination. The fatalistic attitude too prevalent toward all mental defects has excluded many a child from treatment which might have materially modified the mental and social picture presented upon a superficial investigation. A thorough-going study of each child, from a psychiatric as well as a psychological point of view, in which are considered the child's personality, his special abilities and interests and the possibility of psychotic or psychoneurotic trends is the only basis upon which future mental health and limits of adaptability to a social environment can be judged in an individual still in the developmental stage. Such a complete study is the function of the psychiatric clinic.

### Work Permits for the Mentally Defective

The truancy law of Ohio provides that boys of such subnormal mental capacity that they are unable to get past the sixth grade may receive special permission to go to work upon attaining fifteen years of age, and girls of sixteen, having passed the seventh grade may also receive permission. At sixteen any boy or girl may leave school. Boys of sixteen may go to work without permits, but girls of normal mentality who have not passed the seventh grade cannot have permission to work in factories until eighteen. A mentally deficient girl may have a work certificate before eighteen.

It is believed that the law requiring school attendance should be more flexible in the case of mentally defective children. It should give the school enough power to hold the child when advisable in individual cases or to recommend that children be allowed to leave before they have completed the attendance now required. Often defective children leave school too soon, when the teachers feel that they have just reached the point where something can be done for them. It is suggested that in cases where subnormal children are not able to receive benefit from academic instruction and are approaching the age at which they can receive work permits, they should receive technical training in a school or shop, or in domestic economy, where, working under the supervision of expert teachers they can gain the knowledge and skill that will be helpful to them in securing and maintaining employment which will command a living wage. In this way the fundamental and non-remediable mental defect may be compensated for by intelligently directed training.

It should, however, be kept in mind that if the equipment of the shop or school is unusual or out of date and instruction is given only with such apparatus, re-education may be necessary when the boy or girl takes up employment.

Work permits are issued by the truant officer and the subnormal child's mental age is recorded on the card. Some people feel that this handicaps the child in obtaining advantageous employment, but most of those concerned believe that the mental age should be so recorded as the card is not widely displayed but is filed with the employer and knowing the child's limitations he can protect the employe and himself. As a matter of fact the feeble-

mind ed easily secure employment and sometimes receive very good wages. Many anecdotes are told, one concerning a seventeen year old boy whose "mental age" was six years, earning \$4.20 per day cleaning cork in a factory. He was taught by a substitute teacher who received exactly the same amount for her services.

A review of permits issued during a recent period of six months showed that 8.6 per cent of the boys and 4.8 per cent of the girls were definitely diagnosed as feeble-minded and had their mental ages recorded upon their work permit cards.

The following tables, prepared by Miss F. V. Ball, show in detail the information contained in the health records of these children and an analysis of the industries in which those who were working were engaged. The kinds of work in which they were occupied do not differ materially from those in which all working children are engaged.



## MENTALLY SUBNORMAL CHILDREN APPLYING FOR WORK PERMITS

(a) 64 girls, all 16-18 years, constituting 4.8 per cent of 1,345 records examined—(Percentages)

Mental Age	Total	Physical Defects							Permit Granted	Permit Refused	Permit Given After Correc- tion
		Nutrition	Vision	Teeth	Tonsils	Hearing	Suspected Tuberculosis	Miscellaneous			
VII.....	3.1%	1.6%	1.6%	1.6%	.....	.....	.....	1.5%	.....	.....	3.1%
VIII.....	32.8	7.8	7.8	12.5	.....	3.1%	.....	4.7	21.9%	6.2%	4.7
IX.....	43.8	14.1	7.8	14.1	1.6%	.....	.....	3.0	26.6	4.7	12.5
X.....	17.2	6.3	3.1	1.6	.....	.....	.....	3.1	12.5	1.6	3.1
XI.....	3.1	1.6	.....	.....	.....	.....	.....	.....	3.1	.....	.....
Total.....	100.0%	31.4%	20.3%	29.8%	1.6%	3.1%	.....	12.3%	64.1%	12.5%	23.4%

(b) 84 boys, all 15-16 years, constituting 8.6 per cent of 978 records examined—(Percentages)

Mental Age	Total	Physical Defects							Permit Granted	Permit Refused	Permit Given After Correc- tion
		Nutrition	Vision	Teeth	Tonsils	Hearing	Suspected Tuberculosis	Miscellaneous			
VII.....	6.0%	2.3%	1.2%	3.6%	1.2%	.....	.....	2.3%	1.2%	2.4%	2.4%
VIII.....	20.2	3.6	1.2	7.1	1.2	.....	3.6%	4.8	10.6	4.8	4.8
IX.....	53.6	15.5	7.1	20.2	2.4	.....	2.4	10.7	31.0	11.9	10.7
X.....	19.0	3.6	.....	3.6	.....	.....	1.2	3.6	14.3	1.1	3.6
XI.....	1.2	.....	.....	.....	.....	.....	.....	.....	1.2	.....	.....
Total.....	100.0%	25.0%	9.5%	34.5%	4.8%	.....	7.2%	21.4%	58.3%	20.2%	21.5%

(Percentages)

	45 Girls				48 Boys			
	Machine Work	Hand Work	Miscellaneous	Total	Machine Work	Hand Work	Messengers and Office Boys	Miscellaneous
Sewing Trades.....	.....	11.1%	.....	11.1%	.....	.....	.....	.....
Woolen Mills.....	11.1%	6.7	2.2%	20.0	6.3%	2.0%	.....	8.3%
Metal Trades.....	2.2	4.4	6.7	13.3	10.4	10.4	4.2%	25.0
Retail Stores.....	2.2	.....	11.1	13.3	.....	.....	14.5	4.2%
Printing Trades.....	2.2	.....	6.7	8.9	4.2	2.1	8.3	2.1
Miscellaneous.....	6.7	15.6	11.1	33.4	2.1	6.3	4.2	18.7
Total.....	24.4%	37.8%	37.8%	100.0%	23.0%	20.8%	31.2%	25.0%

## MENTALLY SUBNORMAL CHILDREN APPLYING FOR WORK PERMITS

(a) 64 girls, all 16-18 years, constituting 4.8 per cent of 1,345 records examined—(Percentages)

Mental Age	Total	Physical Defects							Permit Granted	Permit Refused	Permit Given After Correction
		Nutrition	Vision	Teeth	Tonsils	Hearing	Suspected Tuberculosis	Miscellaneous			
VII.....	3.1%	1.6%	1.6%	1.6%	.....	.....	.....	1.5%	.....	.....	3.1%
VIII.....	32.8	7.8	7.8	12.5	.....	3.1%	.....	4.7	21.9%	6.2%	4.7
IX.....	43.8	14.1	7.8	14.1	1.6%	.....	.....	3.0	26.6	4.7	12.5
X.....	17.2	6.3	3.1	1.6	.....	.....	.....	3.1	12.5	1.6	3.1
XI.....	3.1	1.6	.....	.....	.....	.....	.....	.....	3.1	.....	.....
Total.....	100.0%	31.4%	20.3%	29.8%	1.6%	3.1%	.....	12.3%	64.1%	12.5%	23.4%

(b) 84 boys, all 15-16 years, constituting 8.6 per cent of 978 records examined—(Percentages)

Mental Age	Total	Physical Defects							Permit Granted	Permit Refused	Permit Given After Correction
		Nutrition	Vision	Teeth	Tonsils	Hearing	Suspected Tuberculosis	Miscellaneous			
VII.....	6.0%	2.3%	1.2%	3.6%	1.2%	.....	.....	2.3%	1.2%	2.4%	2.4%
VIII.....	20.2	3.6	1.2	7.1	1.2	.....	3.6%	4.8	10.6	4.8	4.8
IX.....	53.6	15.5	7.1	20.2	2.4	.....	2.4	10.7	31.0	11.9	10.7
X.....	19.0	3.6	.....	3.6	.....	.....	1.2	3.6	14.3	1.1	3.6
XI.....	1.2	.....	.....	.....	.....	.....	.....	.....	1.2	.....	.....
Total.....	100.0%	25.0%	9.5%	34.5%	4.8%	.....	7.2%	21.4%	58.3%	20.2%	21.5%

## KINDS OF WORK ENGAGED IN BY MENTALLY SUBNORMAL CHILDREN HAVING WORK CERTIFICATES

(Percentages)

	45 Girls				48 Boys			
	Machine Work	Hand Work	Miscellaneous	Total	Machine Work	Hand Work	Messengers and Office Boys	Miscellaneous
Sewing Trades.....	.....	11.1%	.....	11.1%	.....	.....	.....	.....
Woolen Mills.....	11.1%	6.7	2.2%	20.0	6.3%	2.0%	.....	8.3%
Metal Trades.....	2.2	4.4	6.7	13.3	10.4	10.4	4.2%	25.0
Retail Stores.....	2.2	.....	11.1	13.3	.....	.....	14.5	18.7
Printing Trades.....	2.2	.....	6.7	8.9	4.2	2.1	8.3	16.7
Miscellaneous.....	6.7	15.6	11.1	33.4	2.1	6.3	4.2	31.3
Total.....	24.4%	37.8%	37.8%	100.0%	23.0%	20.8%	31.2%	100.0%

### Special Types of Atypical Children

**UNUSUALLY BRIGHT CHILDREN**—By means of group psychological tests, supplemented by individual tests, a number of children classified as “unusually bright” have been picked out and the school authorities have formed some special classes and devised methods of giving these children special work. A physical examination is made of these children but no psychiatric examination. So important is the latter in determining whether or not a child shall be placed in this group that, in the opinion of the writer, the harm likely to result to unstable individuals if purely psychological tests are employed will offset the good that comes to others if the experiment is continued without such aid. It is in this group that some of the graver psychiatric problems are often found. An ordinary physical examination in such cases is far from conclusive and often throws no light upon the psychiatric situation. Properly conducted such an experiment is certain to yield important results. Much has already been done for these children whose needs have so long been overlooked. Often astonishing progress is made in the special classes for the “unusually bright.” Handicraft and domestic science play a large part. Folk dancing and various games fill part of the time. A model store is conducted with great success. As there is only a “four-period day,” some of the children work after hours. It is, however, a field to be entered only with full appreciation of the complex factors with which it will be necessary to deal.

**PSYCHOPATHIC CHILDREN**—Cleveland has not yet been able to give special attention to psychopathic children in the public schools. These children usually possess normal intelligence but have volitional or emotional difficulties or psychoneurotic trends that interfere seriously with their family and social adaptation in later life. It is among such children that the forerunners of grave mental disease are often found. Juvenile or adult delinquency, vagrancy and the development of many asocial compensations for personality defects, make wrecks out of much human material that early in life might have been dealt with successfully. In such work it is indispensable to conduct careful psychiatric, psychological and social studies and to co-ordinate the findings, with the element of treatment always uppermost.

**SPEECH DEFECTS**—The essentially mental basis for speech defect, together with the great frequency of this condition among school children, makes its consideration important. Since the educational survey of Cleveland in 1915, forty-eight special classes have been organized for treatment of speech defects. The work was started by fifteen teachers, each teacher having three classes—a kindergarten class, a phonetic class and a stuttering class. Some are conducted in school hours and some out of school hours. At the present time there are four teachers each teaching ten classes per week, each class having one hour of instruction per week. These teachers receive extra compensation of \$200 per year for this work. Seventeen other teachers give instruction outside school hours and receive \$1.50 per hour additional for this work. The work is conducted under the general direction of Miss Williams who devotes to it half her time, for which she receives \$1,880 a year. For the other half of her time which is otherwise occupied, she is compensated.

The teachers are not particularly attracted by the increase in compensation but are especially interested in the work and would prefer to do it exclusively. Since this work has been going on teachers in the school have become more watchful for speech defects and recognize them more quickly. If teachers were available, the number of pupils enrolled could be doubled at once. It is claimed that one-third of the kindergarten children have speech defects (lispings most common), and it is hoped finally to give each kindergarten class teacher some training for speech instruction. A good deal of research concerning the essential elements in difficulty in speech and the basic facts underlying plans of treatment has recently been carried on. Much excellent work in treatment has already been done, but an important fact often overlooked in speech classes is the psychoneurotic basis for the condition in many cases. Without correcting the handicaps found in the psychoneurotic child, little in the way of permanent results are to be expected. If the subject had been taken up from a psychiatric approach this would have been readily comprehended. It is important that this factor receive attention or else much time and money will be used in attaining temporary results.

### After-care and Supervision

Too often attention is fixed upon the phase of the lives of mentally defective children that is passed in school without realizing that in the more serious affairs of adult life the mental defect will persist but the protection of the special class will not be present. Many a teacher sees the end of the period of school life approach for her charges, especially the girls, with dread. The transition is often dramatically sudden. One day the defective child is in an environment especially created for her safety and protection, watched over and guided by those who well understand the limitations of the mind arrested in its development. On the following day this individual with a child's mind in a woman's body goes into a world which knows nothing of "mental age" or "limited responsibility" and has inexorable standards of conduct which do not take such factors into consideration.

Thanks to the practical instruction given in the special classes, such children are often better fitted than some of their normal minded schoolmates to earn their living at simple work and have had habits of industry developed by the careful training that they have received. Nevertheless they have still only the judgment and control of impulses of a child. In many instances they are handicapped by mentally defective parents so that those who should prove their protectors are but an additional handicap to them.

There is urgent need for a system of community supervision that will throw around these grown-up children some of the special protection that is thrown around those who are children in years as well as in mind. First, it is necessary to have a mental deficiency law that recognizes the need of special guardianship and provides a practical means for supplying it. Such laws, modeled in most instances after the "Mental Deficiency Act" of England

have been enacted in several states and when they exist and there is an efficient system of registration and community supervision the work of the special class is supplemented in such a way that the feeble-minded can and do live happy, useful, harmless lives instead of inflicting much damage upon society and being themselves harmed by a social environment created for people with normal minds.

## Welfare Organizations

**A**MONG the voluntary agencies for social work is to be found a very keen appreciation of the part played by mental factors in the problems with which they have to deal. None see more clearly than the workers in these agencies the full effects of the failure of the state to provide adequate facilities for caring for the insane, the mentally defective and the epileptic. Weary of waiting for relief from this quarter, from which, however, it must ultimately come, these agencies are devising for themselves some makeshift methods of dealing with certain phases of abnormal mental conditions. The general hospitals to which they may refer all other classes of sick persons for help have nothing to offer to those whose illness is mental. Psychiatrists in private practice give as much time as they can afford to the examination of special cases but social workers are reluctant to make use of this means of securing help except in especially urgent cases. It is of interest to review briefly what some of the social agencies have done to provide means for solving some of their problems.

**AMERICAN RED CROSS**—This organization serves those who have been in the naval and military service of the United States during the recent war, and their families. The society has organized a medical committee made up of various consultants, including psychiatrists; has employed a psychiatrist, and, on January 9, 1920, opened a neuro-psychiatric clinic. The organization already has a record of 238 cases and believes that this number will be much enlarged when the clinic is further developed. From January 6th to April 6th, 158 examinations had been made, the psychiatrist personally examining about 100. Social workers bring the patients to the clinic and report on the family, economic and neighborhood situation as well as giving attention to personal histories and the facts which led to the request for examination. The social workers receive instructions at the clinic which assist them in becoming better qualified for this special work. On questions of general physical health consultations are obtained at various prominent hospitals or with members of the mental committee. The Red Cross maintains an Army and Navy Club where the psychiatrist lives and where several quiet mental patients may be cared for.

Members of this organization report that they are much embarrassed by the fact that the Government makes inadequate provision for ex-soldiers with mental and nervous disorders. There are thirty in the neighborhood who need hospital care, which at present is unavailable.

**THE ASSOCIATED CHARITIES**—This organization finds that with the widening of its field beyond the supplying of necessities of life such as food, fuel, clothing and shelter, its work now includes health, education, employment, recreation and spiritual development, the last having for its objective the development of "a working philosophy of life" that will help to make the adjustments necessary for living in a modern community. Of the 2,000 families cared for by the Associated Charities less than 600 receive material help, the other 1,400 being able to work out their own problems after receiving advice and personal assistance.



In carrying out this program a psychological approach to the problems of the individuals concerned is, of course, necessary. A survey of 1,960 families under the care of the organization during March, 1920, disclosed 359 in which abnormal mental condition was an important element in the social problem presented. In these 359 families there were 574 individuals listed. The number of individuals is probably smaller than the actual number because the list was made conservatively, especially in regard to the number of individuals with mental difficulties. It is believed that if a psychiatric clinic were available for closer study of these families, a larger number of mentally abnormal members would be found. Among these 574 individuals, however, 46 are already in hospitals for the insane and 19 in institutions for the feeble-minded. It was thought that 56 more should be in such hospitals and 136 in institutions for the feeble-minded. These data are shown in detail in the following table.

**FAMILIES AND INDIVIDUALS UNDER CARE OF ASSOCIATED CHARITIES  
WITH MENTAL DISORDERS**

**Group 1—Diagnosed Cases**

	Families	Individuals
Mental Diseases and Constitutional Psychopathic States.....	88	95
Mental Deficiency.....	107	148
Epilepsy.....	12	12

**Group 2—Well-defined Mental Cases, but not Diagnosed**

	Families	Individuals
Mental Disorder.....	29	41
Mental Deficiency.....	28	76

**Group 3—Mental Disorder or Mental Deficiency Strongly Suspected, but  
not Well-defined**

	Families	Individuals
Mental Disorder.....	41	64
Mental Deficiency.....	54	138
<b>Total of the three groups.....</b>	<b>359</b>	<b>574</b>

It is stated that there is great difficulty in securing the commitment of mental patients unless the condition from which they suffer is severe and that uncured patients are too freely paroled from the hospitals. The commitment of the feeble-minded is extremely difficult because of the lack of institutional space.

The association is deeply interested in preventive work and the treatment of cases in early stages to avert further development of mental disorders.

In the absence of any special provision for mental hygiene work it is doing what is possible by means of its own workers.

**HUMANE SOCIETY**—The Humane Society found that in its work it was frequently necessary to have mental age and capacity of children and adults tested, but no local agency was available to give this assistance. Such information is needed in order to reach an opinion as to whether a father can take and keep a position and whether a mother is able to maintain a home and supervise and rear her children. The information is essential in order to determine the proper form of assistance in any particular case and to determine what disposition and care shall be given to children. Help has been received irregularly from the workers of the Bureau of Juvenile Research located at Columbus, and the Humane Society had one of its workers trained to make intelligence tests.

**WELFARE FEDERATION**—This organization is most desirous of having suitable provisions made for mental patients now in the various orphanages and other institutions in which it is interested. The officers of this organization also feel the need of psychiatric clinics to which they can turn for help.

**THE WOMEN'S PROTECTIVE ASSOCIATION**—This is a private association supported from the Community Fund. It is associated in its work with the Police Department, having an office at the central police station. Some members of the Association are special investigators without power, but carry this title to facilitate the discharge of their duties. The Association takes charge of girls and women, usually between the age limits of fourteen and twenty. The police often turn over to them the insane and obviously mentally defective girls whom they do not wish to place under arrest, and cases in which there is not enough evidence to go into court.

This Association makes home investigations for the superintendent of the institution for the feeble-minded and obtains reports on his parole cases. It also makes investigations for the Probate Court.

A woman to be charged with the offense of being a common prostitute must have been arrested before. The so-called "golden rule" method of handling these cases is to have the girl sign a confession when arrested, promising to refrain from further delinquency, after which she is given a warning or placed under the care of the Protective Association. The Association maintains Sterling House (described in another section of this report) for the detention of girls in their charge.

A prominent psychiatrist makes mental examinations on occasion, the Probate Court gives its cooperation, and Miss Walters of the Boys' School assists. Nevertheless, these facilities are too limited to afford the type of help needed. Mental cases must be picked out by laymen and referred for examination afterward. Recently it was necessary to send two feeble-minded women to the county workhouse as they could not be kept in the home on account of venereal disease and evidently could not be committed to an institution for the feeble-minded. The probation officer of this Association suspects that at least 75 per cent of those who come under her care are sub-normal and that many others are psychopathic. The obviously feeble-

mined are sent to the state institution at Columbus, but are readily released on parole at the request of relatives or friends, because of the crowded condition in the institution.

**MENTAL TEST REGISTRY OF THE ASSOCIATED CHARITIES**—The Associated Charities maintains a mental test registry which consists of a card index of the results of the mental tests of children, made by psychologists and psychiatrists for the Probate Court, for the Board of Education and for the Juvenile Court. There are records of 9,000 families, including frequently more than one individual per family, usually the children. The assembling of these records was begun in 1914. The cost has been moderate and the results of the work have been of great benefit in the administration of relief for families in which mental deficiency or disease was the chief factor in family dependency. This registry has provided a storehouse of information for research, education and for propaganda purposes.

Cleveland supports the welfare agencies mentioned above in a liberal manner with full appreciation of the part they play in the social life of the city. How much further would every dollar contributed to their work go if their efforts to bring about better individual and social adjustments could receive the aid that a careful mental study of each individual gives? It is certain that when the proposed City Psychopathic Hospital comes into existence and establishes its "outposts" where they may be of the greatest service, the first to derive benefit from the new facilities will be the welfare agencies which now have to deal with some of the most complex human problems without the information regarding the deep springs that regulate the conduct of the human beings concerned that can be gained only in the psychiatric clinic.

## Prevention—Mental Hygiene

**D**URING the four months in which this study was in progress practically every institution in Cleveland which deals with dependents, delinquents or persons who for any reason require special care and supervision by the community was visited by members of the Survey staff. Social workers, court officers, teachers, physicians and others whose work brings them directly into contact with the socially maladjusted of the city were interviewed repeatedly and in many instances their daily work was closely observed. In twenty-nine of the institutions visited children and adults under care received a careful mental examination. Altogether these institutions had a population of 2,978 on the days on which they were visited and 541 individuals were personally examined by the Field Consultant or his assistants. Among those examined, who in all cases were taken at random from the group under study, there were found 119 persons who presented mental disorders, constitutional psychopathic states, mental deficiency or epilepsy of such a degree of severity that institutional care was required. If the same percentage existed in the whole population of the institutions visited, and there is no reason to believe that it does not, there were in Cleveland at the time the survey was made 651 mental patients receiving temporary or permanent care in institutions designed for entirely different purposes. In these unsuitable institutions they were not only constituting a serious drain upon the institutional resources but were interfering with the specific objects for which the institutions were established and conducted. At some time, the remoteness of which depends chiefly upon the strength and the insistence of the demand made by the people of the state, adequate institutional facilities for these cases will be provided but if, today, it were possible to admit everyone of them to an appropriate institution, a survey made six months hence would find nearly as many others in their places. The investigation made by the Survey merely dipped into the stream of unadapted human beings which flows continuously through the schools, courts and institutions of Cleveland, and ascertained the fact, already known by many and suspected by others, that disorders of the central nervous system were in very large part responsible for the volume of this stream. The stream can be diverted into other channels but what can be done to dry up its source? Are mental disease and mental deficiency inevitable accompaniments of the life of American communities, or can they in any considerable measure be controlled? It is most important that this report, which of necessity is devoted so largely to the institutional provisions for those with mental disorders and mental deficiency, should not convey the impression that we have to do with a problem which can be handled in different ways according to the skill, enlightenment and resources that we bring to bear upon it but which, nevertheless, must always continue to exist in the same dimensions. Mental diseases and mental deficiency are preventable, to a less extent than the infectious diseases but to a greater extent than most of the degenerative physical diseases. It is beyond the scope of the report even to outline the field of mental hygiene or the practical measures of prevention, but it is desirable to suggest that the agencies which deal with health, education and the care of dependents and delinquents in Cleveland institute organized efforts to bring about practical work in mental hygiene.

Much of the prevention of mental diseases lies in other fields of preventive medicine. General paresis, which is responsible for one-fifth of all the male admissions to hospitals for the insane, is a manifestation of syphilis and its prevention lies in the prevention of the primary disease. Mental diseases dependent upon alcohol and drugs are prevented only by the legal and social measures which can be directed against the particular evils from which they come. Much mental disease is the result of general physical illness and its prevention depends upon the success with which the general health of the population is maintained. Mental deficiency has its most important single cause in heredity, and the control of unfavorable heredity is the practical field of eugenics. As far as those disorders which have been mentioned are concerned mental hygiene consists obviously in directing the attention of those responsible for other organized health movements to the relations which their work bears to mental disease and mental defect. Nevertheless, there is an important field of prevention which no other agencies than those specifically devoted to mental hygiene can hope to enter successfully; that is, the control—largely during childhood—of those factors acting within the mental life of the individual which are recognizable early as slight deviations from normal thinking and living, and which ultimately may result in disastrous anti-social reactions or in the production of grave forms of mental disease. There is, in addition, a great field in mental hygiene which has for its objects the protection, supervision and special training of people with impaired or naturally limited ability to adjust themselves so that through the skillful efforts of others their lives may be successful and useful, socially if not biologically. Facilities must be organized for dealing with those incipient stages of severe disorders at the very beginning. A conception of the part of the school clinic much wider than that of classifying children with reference to intelligence must come into existence. The mental hygiene activities of many unrelated welfare organizations and city and state departments must be coordinated by an organization specifically established for this purpose. This is the task of the mental hygiene society.\*

\* Important and recent reprints on the subject of mental disease and care can be had by application to the National Committee for Mental Hygiene, 50 Union Square, New York City.

## Summary of Recommendations

Dealing with state legislation and local ordinances or charter changes.

### A. STATE

1. State administration and supervision of the institutional care and treatment of persons with mental diseases, mental deficiency and epilepsy, and of their guardianship in the community.

Legislation is recommended that will accomplish the following objects:

- a. Establishing a special State Commission on Mental Diseases for the performance of the functions mentioned above; such Commission (headed by a physician experienced in dealing with the institutional and social aspects of mental disorders) to administer the state hospitals for the insane, the State Institution for the Feeble-minded, the State Hospital for Epileptics and the Bureau for Juvenile Research and to concern itself with the broad medical and community relationships of these disorders as well as with the business administration of the institutions.
- b. Establishing a bi-partisan State Institutional Development Commission composed of the head of the special Commission on Mental Diseases recommended in the preceding paragraph, members of each house of the Legislature and persons not in the service of the state who can bring special knowledge to the task; such Commission to formulate a ten-year program for the development of the state's institutions for mental disorders in accordance with a comprehensive plan for remedying the existing serious inadequacy and to present to the Legislature, at the beginning of each session, definite recommendations for appropriations for the ensuing two years.
- c. Licensing and inspecting private institutions for the care of mental patients.

2. Commitment, care and parole and discharge of persons with mental diseases.

Legislation is recommended that will accomplish the following objects:

- a. Removing present restrictions as to the number of voluntary patients that can be received in state hospitals.
- b. Committing patients for observation for a period of ten days to state hospitals, psychopathic hospitals and psychopathic wards in general hospitals.
- c. Prohibiting the detention of persons awaiting commitment in jails or almshouses and placing the responsibility for their care pending commitment and reception in state hospitals in the hands of health officers, except in cities where suitable facilities are otherwise provided.
- d. Discontinuing the personal appearance of mental patients in court.
- e. Admitting patients to state hospitals in emergencies upon the certificate of two physicians, such admissions to be followed within ten days by discharge or court commitments.

- f. Committing to state hospitals any persons under trial in whom mental disease is suspected upon order of any trial judge, such commitments being for observation only and for a period not less than ten nor more than thirty days.
  - g. Authorizing sending nurses and attendants from state hospitals to bring from their homes or places of temporary detention patients who may have been committed and are awaiting transfer, thus eliminating the services of sheriffs and police officers.
  - h. Authorizing counties to pay examining physicians salaries instead of fees for their services when mental examinations are made in psychopathic hospitals, psychopathic wards in general hospitals or mental clinics maintaining satisfactory standards.
3. Commitment, registration, care, training, parole and discharge and community guardianship and supervision of the mentally defective.

Legislation is recommended that will accomplish the following objects:

- a. Committing children and adults for observation for a period of ten days to state institutions for the feeble-minded, state hospitals for epileptics, psychopathic hospitals, psychopathic wards in general hospitals or the Bureau for Juvenile Research.
- b. Committing mentally defective children and adults to guardianship, with provision for transfer from this form of commitment to institutions and vice versa.
- c. Encouraging the development and coordinating, under the proposed State Commission on Mental Diseases, organized facilities for the registration and community supervision of the mentally defective. (See IV A-1b.)
- d. Eliminating the age of consent in mentally defective women and girls who have been committed to institutions or to guardianship.
- e. Authorizing sending nurses and attendants from state institutions for the feeble-minded and state hospitals for epileptics to bring from their homes or places of temporary detention patients who have been committed and are awaiting transfer, thus eliminating the services of sheriffs and police officers.
- f. Authorizing counties to pay examining physicians salaries instead of fees for their services when mental examinations are made in psychopathic hospitals, psychopathic wards in general hospitals or mental clinics maintaining satisfactory standards.
- g. Authorizing the proposed State Commission on Mental Diseases to inspect places for the temporary detention of mentally defective persons and homes and schools in which delinquent or dependent children are maintained.

- h. Requiring the establishment and maintenance of special classes for mentally defective children in every school district in which fifteen or more such children are found, authorizing the payment by the State Department of Education of a fixed sum to the local school authorities for each such class maintained, requiring satisfactory mental and physical examinations of all children before admission to such classes and authorizing supervision of such examinations by a psychiatric advisor to the State Department of Education.
- 4. Other state legislation affecting the insane, mentally defective and epileptic and their work in mental hygiene.

Legislation is recommended that will accomplish the following objects:

- a. Developing the Bureau for Juvenile Research so that its original objects may be accomplished, permitting it to receive children for observation *before* as well as *after* they are committed to the state institutions or to the custody of the Board of Administration.
- b. Requiring the Juvenile Court and authorizing other courts to maintain mental clinics or to make arrangements with other clinics for the routine mental examination of juvenile and adult offenders.

#### B. CITY

Such changes in local ordinances and city charter are recommended as will permit establishment of the facilities recommended in the following sections.

Dealing with departments of state and city government.

#### A. STATE

The following recommendations are made for developing existing facilities for dealing with mental disorders and promoting mental hygiene. Some of them involve both legislative and administrative action and others only administrative action:

- 1. Institutional provisions for the treatment of persons with mental diseases.
  - a. Providing a new State Hospital for the insane, to be constituted by adding a new department in the country to the Cleveland State Hospital and distributing functions between the two departments so that the city department (the present institution) will be used for receiving and intensive treatment center, infirmaries for terminal conditions, hospital for acute general and surgical diseases, diagnostic clinic, laboratories and administration and the new department (which would be the larger) for patients in good physical condition who require long, continued care and who will profit by the facilities for industrial training and re-education.
  - b. Providing adequate salaries for superintendents of state hospitals (who now receive lower compensation than in any other state) assistant physicians, nurses and occupation instructors in order that more efficient treatment services may be built up.



- c. Providing Clinical Directors of Psychiatry in all state hospitals to be responsible for the scientific work and for the supervision of all training.
  - d. Providing training schools for nurses and for attendants in all state hospitals and a Supervisor of Nursing in the proposed State Commission on Mental Diseases to supervise and standardize such instruction.
  - e. Instituting active after-care and social service so that more patients may be paroled and, by following their supervision into the community, the durability of recoveries and remissions increased. (See IV A-1b.)
  - f. Instituting a system of mental clinics in the district of each state hospital for after-care and preventive work, and, in cities, cooperating with existing mental clinics so that after-care patients may be seen by the physicians who have them under their care while in state hospitals.
  - g. Providing stewards at state hospitals so that superintendents will be relieved from the administrative details that now occupy a larger part of their time than supervising and developing medical activities.
  - h. Effecting liaison with the proposed City Psychopathic Hospital (Psychopathic Department of the City Hospital) for the purposes of training medical and nursing personnel and carrying on joint work in psychiatric research.
2. Institutional provisions for the treatment of persons with mental deficiency and epilepsy.
- a. Providing a new state institution for the feeble-minded to which persons of both sexes and all ages will be admitted and attaching to this and the existing institution colonies for the care and training of boys and men in good physical condition and of relatively high mentality.
  - b. Providing adequate salaries for superintendents, assistant physicians, nurses and teachers of the State Institution for the Feeble-minded and the State Hospital for Epileptics in order that more efficient treatment and training services may be built up.

## B. CITY

The following recommendations are made for developing existing city facilities for dealing with mental disorders and promoting mental hygiene

1. City Hospital.
  - a. Replacing the present deplorable facilities for the reception, observation, diagnosis and early treatment of mental patients with a modern City Psychopathic Hospital (Psychopathic Department) of from 150 to 200 beds with a full-time medical staff and all modern facilities for treatment—including occupational therapy, physiotherapy, hydrotherapy, etc.
  - b. Providing the proposed City Psychopathic Hospital with a dispensary at the hospital and developing under its control and leadership, besides the Central Mental Dispensary, special mental clinics in the Children's

Court, the Municipal Court, the Boys' School and other agencies which require the services of psychiatrists, such "outposts" being supported directly by the agencies served or by appropriations to the City Hospital for these specific purposes and constituting part of the Mental Clinic in the proposed Downtown Dispensary. (See IV B-1.)

(This arrangement prevents the establishment of a number of small, weak and unattached clinics and permits the facilities in personnel and laboratories that a strong Psychopathic Hospital would possess to be widely employed.)

- c. Including nursing in the City Psychopathic Hospital in the nursing department of the City Hospital, pupil nurses in the training school being required to spend three months in mental nursing and the physicians and supervising nurse of the Psychopathic Hospital assisting in the instruction of nurses in the training school.
- d. Forming affiliations with other Nurses' Training Schools in the city and elsewhere so as to give special instruction and experience in mental nursing and, in return, secure the services of pupil and graduate nurses.
- e. Strengthening the Social Service Department of the City Hospital by the addition of psychiatric social workers.
- f. Utilizing to the fullest possible extent the teaching facilities of the City Psychopathic Hospital, not only for medical students and physicians but occupation instructors, social service workers and others.

. Board of Education.

- a. Providing a greater number of special classes for backward and mentally defective children and improving the accommodations in special class centers.
- b. Increasing the compensation of teachers of special classes so that this work will be placed upon a higher professional plane.
- c. Developing the present psychological clinic of the Board of Education into a School Mental Clinic in which psychiatrists, psychologists and psychiatric social workers can bring to bear upon the mental problems of school children *all* the resources of psychology and medicine instead of only those which deal with the measurement of intelligence.
- d. In such a clinic, widening the scope of the study of unadjusted school children to include other mental problems than mental deficiency and making the aim of *treatment* as prominent as that of *diagnosis*.
- e. Systematically encouraging teachers and parents to make use of the School Mental Clinic recommended in the preceding paragraph for the diagnosis and treatment of psychoneurotic and psychopathic children and those presenting conduct disorders of any kind (lying, pilfering, sex delinquencies, truancy, etc.).

- f. Correlating the work of special classes for "exceptionally bright" children and for the correction of speech defects with routine examinations and individual studies in the School Mental Clinic.
  - g. Including in the instruction given, in teachers' institute and other training courses, information regarding mental deficiency and the psychopathic disorders of childhood.
  - h. Arranging for the postgraduate instruction in Cleveland or elsewhere of teachers who desire to fit themselves especially for work in special classes.
3. Parochial Schools.
- a. Encouraging the formation of special classes for backward and mentally defective children and the free use of the School Mental Clinic recommended above for diagnosis and treatment.
4. Courts.
- a. Establishing in the Juvenile Court a mental clinic staffed by psychiatrists, psychologists and psychiatric social workers from the proposed City Psychopathic Hospital and the Downtown Dispensary or, in case that difficulties in making satisfactory arrangements arise, an independent but closely affiliated clinic. (See IV B-1d.)
  - b. Including in the work of such clinic the routine mental examinations and individual studies of children in the Boys' School, the Girls' Home and the private agencies to which children are sent by the Children's Court for temporary detention or placement.
  - c. Establishing as another "outpost" of the Psychopathic Hospital a clinic in the Municipal Court which should also conduct routine mental examinations and individual studies of persons in the House of Correction. (See IV B-1d.)
  - d. Replacing the present system of mental examination in the Probate Court by examination by the staff of the Psychopathic Hospital, such services to be paid for by appropriations or allotments made by the Probate Court to the Department of Public Welfare for this purpose. (See I A-2h and I A-3f.)

### III. Dealing with private agencies by groups.

The following recommendations are made for more effective work in dealing with mental disorders and promoting mental hygiene by private agencies:

#### A. STATE

##### 1. Mental Hygiene Committee.

- a. The newly organized Committee for Mental Hygiene should receive the support of all those who desire to see the state assume the duties that rightfully belong to it so that local agencies need not continue devoting a large part of their resources to the performance of tasks that arise chiefly

from the state's negligence. Not until the state has met its obligation to provide for the mentally defective and epileptic will the local agencies—both public and private—be able to devote themselves exclusively to the work for which they were created and are maintained by public funds or private philanthropy. A strong State Committee for Mental Hygiene, with definite objects and strongly supported by public spirited citizens, can do more to accomplish these ends than any other type of private agency.

## B. CITY

### Hospitals.

- a. Western Reserve University and Lakeside Hospital. (See IV B-2a, b, c, d.)
- b. In order to carry their share of the burden of mental illness the various hospitals that aim to be general hospitals in fact as well as in name make provisions to care for a few mental patients, especially those arising in the hospital in the course of other illnesses; make more use of the neuro-psychiatrists on their visiting and consulting staffs and make provisions for mental patients in their dispensaries.

### Orphanages and Homes.

- a. Private charitable institutions, especially those which deal with dependent or delinquent children, wayward girls and unmarried mothers will find that light can be thrown upon some of their most difficult problems by making the freest use possible of such clinics as those recommended. Institutions receiving only delinquent children should secure such aid in every case whether it seems to be especially indicated or not.

## 7. Dealing with new agencies or private facilities to be established.

### A. STATE

The establishment of the following new agencies is recommended:

Agencies that can be successfully instituted only under the special State Commission Mental Diseases recommended. (See I A-1a.)

- a. Forming a joint purchasing committee composed of representatives of the proposed Commission on Mental Diseases, the Board of Administration, and superintendents and stewards of hospitals and institutions in the "mental disease group" the "charitable group" and the "correctional group" so as to effect all possible economies through joint purchase without requiring the present administrative union of entirely different kinds of state activities.
- b. Organizing, in the proposed Commission on Mental Diseases, a Bureau of Mental Hygiene that will have supervision over state mental clinics, after-care, parole and social service work, community supervision of the mentally defective and intensive experiments in the prevention of mental diseases and mental deficiency.

- c. Organizing directly under the Commission on Mental Diseases at one of the State Hospitals or at the Bureau for Juvenile Research a central Psychiatric Institute for study and research into the causes, nature and treatment and prevention of mental diseases, mental deficiency and epilepsy, and for direction and coordination of the scientific work of the hospitals and institutions.

## B. CITY

The establishment of the following new agencies is recommended:

1. **Mental Clinic in the Downtown Dispensary.**
  - a. Establishing in the Downtown Dispensary, that has been recommended in various sections of the Survey, a large and fully staffed and equipped Mental Clinic that shall be a branch of the City Psychopathic Hospital (Psychopathic Department of the City Hospital) and conducted by that institution.
  - b. Providing for the closest cooperation between this Mental Clinic and the other departments of the Downtown Dispensary and the dispensary of the proposed Psychiatric Clinic of Western Reserve University.
  - c. Providing for carrying on mental clinics in connection with the Juvenile Court and other agencies, except the School Mental Clinic of the Board of Education, as "outposts" of the Mental Clinic of the Downtown Dispensary. (See II B-4a, b, c.)
  - d. Utilizing the teaching facilities of the Mental Clinic of the Downtown Dispensary in the same way as those of the City Psychopathic Hospital.
2. **Western Reserve University and Lakeside Hospital.**
  - a. Establishing a University Psychiatric Clinic of from 40 to 60 beds as an integral part of Lakeside Hospital for the reception, treatment and study of mental diseases, especially those types most frequently seen in general medical and surgical practice and most likely to be benefited by treatment under the conditions that exist in such a psychiatric department of a general hospital.
  - b. Establishing in connection with the University Psychiatric Clinic recommended in the foregoing paragraph, a dispensary particularly for the same types of cases as those received in the clinic.
  - c. Utilizing to the greatest possible extent the facilities of the University Psychiatric Clinic and Dispensary for medical students and those in other departments of the University who would be aided by the study of psychopathology under clinical conditions.
  - d. Effecting close cooperation between the University Psychiatric Clinic and the City Psychopathic Hospital and its various "outposts."

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**3. Welfare Organizations.**

- a. Organizing a Cleveland Mental Hygiene Committee, in which all other welfare organizations should be represented to coordinate all the activities of voluntary social agencies that deal largely with mental hygiene problems, to conduct the "mental test registry," to aid public agencies (especially the proposed City Psychopathic Hospital and its various mental clinics, and the School Mental Clinic) and to cooperate, in measures affecting state institutions or state policies, with the Ohio State Committee for Mental Hygiene.

# **THE CLEVELAND HOSPITAL AND HEALTH SURVEY REPORT**

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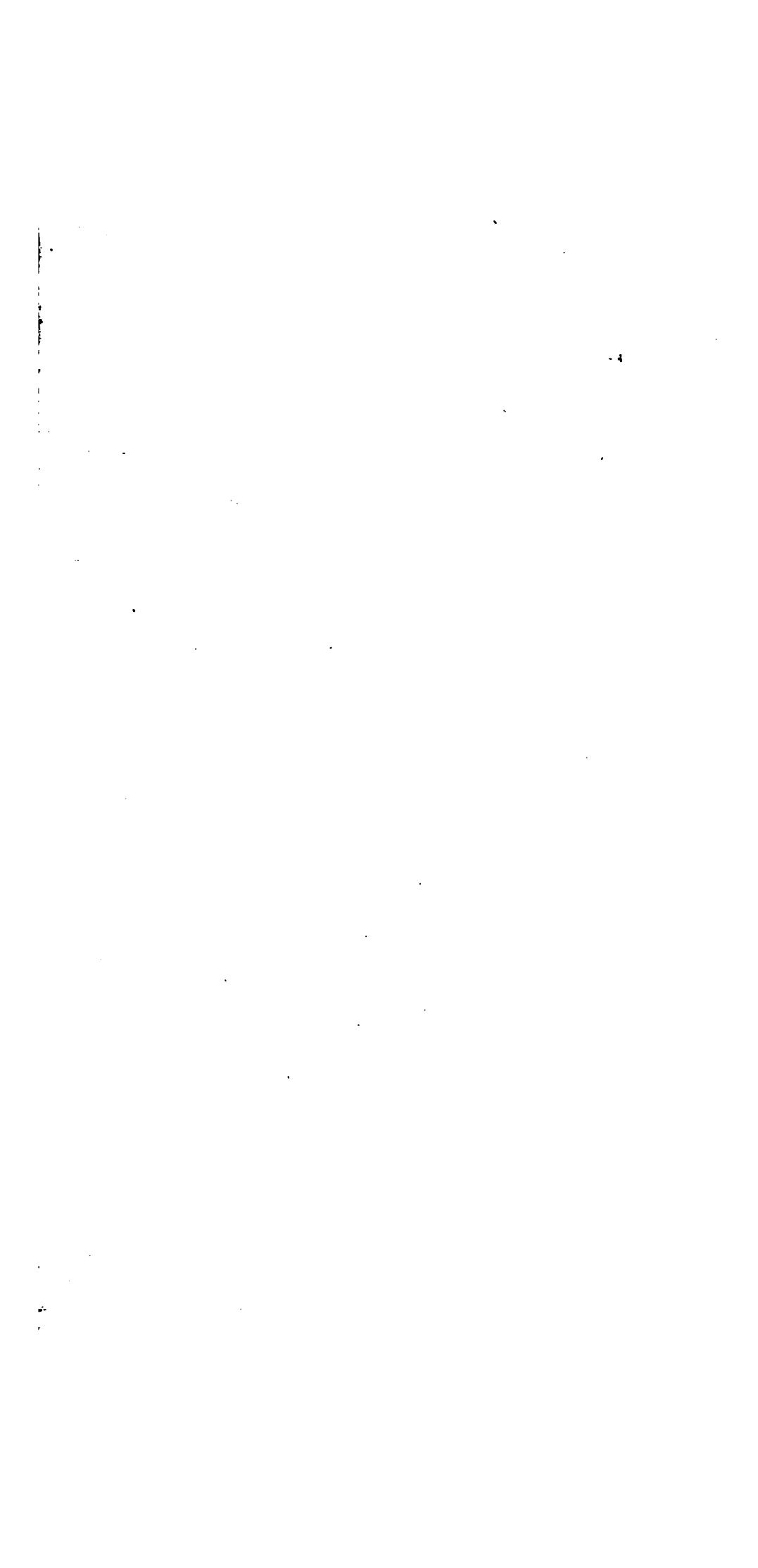
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